



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

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LOCTITE 248

SDS No. : 453681  
V013.0

Revision: 09.01.2025

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Replaces version from: 26.09.2024

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

#### 1.1. Product identifier

LOCTITE 248

UFI: E5X8-0X4A-2201-9VR7

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

Intended use:

Threadlocker

#### 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

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website [www.mysds.henkel.com](http://www.mysds.henkel.com) or [www.henkel-adhesives.com](http://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 sensitizer

Category 1

H317 May cause an allergic skin reaction.

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

Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide),  
Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]

Acetic acid, 2-phenylhydrazide

|                                        |                                                                                                      |
|----------------------------------------|------------------------------------------------------------------------------------------------------|
| Signal word:                           | Warning                                                                                              |
| Hazard statement:                      | H317 May cause an allergic skin reaction.<br>H412 Harmful to aquatic life with long lasting effects. |
| Precautionary statement:<br>Prevention | P273 Avoid release to the environment.<br>P280 Wear protective gloves.                               |
| Precautionary statement:<br>Response   | P333+P313 If skin irritation or rash occurs: Get medical advice/attention.                           |

### 2.3. Other hazards

None if used properly.

Following substances are present in a concentration  $\geq$  the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration  $\geq$  the concentration limit for depiction in Section 3 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<br>CAS-No.<br>EC Number<br>REACH-Reg No.                                                                                                              | Concentration                            | Classification                                                                                                                                                                                          | Specific Conc. Limits, M-factors and ATEs                                                                                                                                                                  | Add. Information |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Tetramethylene dimethacrylate<br>2082-81-7<br>218-218-1<br>01-2119967415-30                                                                                                | 10- < 20 %                               | Skin Sens. 1B, H317                                                                                                                                                                                     |                                                                                                                                                                                                            |                  |
| 2-[[2,2-bis[(1-oxoallyl)oxy]methyl]butoxy]methyl-2-ethyl-1,3-propanediyl diacrylate<br>94108-97-1<br>302-434-9                                                             | 1- < 5 %                                 | Eye Irrit. 2, H319<br>Aquatic Chronic 2, H411                                                                                                                                                           |                                                                                                                                                                                                            |                  |
| Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide), Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]-----<br>204-613-6<br>01-2119978265-26 | 1- < 5 %                                 | Skin Sens. 1, H317                                                                                                                                                                                      |                                                                                                                                                                                                            |                  |
| Cumene hydroperoxide<br>80-15-9<br>201-254-7<br>01-2119475796-19                                                                                                           | 0,1- < 1 %                               | STOT RE 2, H373<br>Skin Corr. 1B, H314<br>Acute Tox. 2, Inhalation, H330<br>Aquatic Chronic 2, H411<br>Acute Tox. 4, Oral, H302<br>Acute Tox. 4, Dermal, H312<br>Org. Perox. E, H242<br>STOT SE 3, H335 | Eye Irrit. 2; H319; C 1 - < 3 %<br>Skin Irrit. 2; H315; C 3 - < 10 %<br>Eye Dam. 1; H318; C 3 - < 10 %<br>STOT SE 3; H335; C >= 1 %<br>Skin Corr. 1B; H314; C >= 10 %<br>=====<br>dermal:ATE = 1.100 mg/kg |                  |
| N,N-Diethyl-p-toluidine<br>613-48-9<br>210-345-0                                                                                                                           | 0,1- < 1 %                               | Acute Tox. 3, Oral, H301<br>Acute Tox. 3, Dermal, H311<br>Acute Tox. 3, Inhalation, H331<br>STOT RE 2, H373<br>Aquatic Chronic 3, H412<br>Skin Irrit. 2, H315                                           | dermal:ATE = 300 mg/kg<br>oral:ATE = 100 mg/kg<br>inhalation:ATE = 3 mg/l;vapour                                                                                                                           |                  |
| Acetic acid, 2-phenylhydrazide<br>114-83-0<br>204-055-3<br>01-2120951382-56                                                                                                | 0,1- < 1 %                               | Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410<br>Acute Tox. 4, Oral, H302<br>Skin Sens. 1, H317<br>Carc. 2, H351                                                                                     | M acute = 1<br>M chronic = 1                                                                                                                                                                               |                  |
| N,N-dimethyl-o-toluidine<br>609-72-3<br>210-199-8                                                                                                                          | 0,1- < 1 %                               | STOT RE 2, H373<br>Acute Tox. 3, Oral, H301<br>Acute Tox. 3, Dermal, H311<br>Acute Tox. 3, Inhalation, H331<br>Aquatic Chronic 3, H412                                                                  | dermal:ATE = 300 mg/kg<br>oral:ATE = 100 mg/kg<br>inhalation:ATE = 0,5 mg/l;dust/mist                                                                                                                      |                  |
| methacrylic acid<br>79-41-4<br>201-204-4<br>01-2119463884-26                                                                                                               | 0,1- < 1 %                               | Acute Tox. 4, Oral, H302<br>Acute Tox. 3, Dermal, H311<br>Acute Tox. 4, Inhalation, H332<br>Skin Corr. 1A, H314<br>Eye Dam. 1, H318<br>STOT SE 3, H335                                                  | STOT SE 3; H335; C >= 1 %<br>=====<br>dermal:ATE = 500 mg/kg<br>inhalation:ATE = 3,19 mg/l;dust/mist                                                                                                       |                  |
| 1,4-Naphthalenedione<br>130-15-4<br>204-977-6                                                                                                                              | 0,0025- < 0,025 %<br>(25 ppm- < 250 ppm) | Acute Tox. 3, Oral, H301<br>Skin Corr. 1C, H314<br>Skin Sens. 1, H317<br>Eye Dam. 1, H318<br>Acute Tox. 1, Inhalation, H330<br>STOT SE 3, H335<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410      | M acute = 10<br>M chronic = 1                                                                                                                                                                              |                  |

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.  
For full text of the H - statements and other abbreviations see section 16 "Other information".

## 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.

Prolonged or repeated contact may cause eye irritation.

### 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 (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) 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.

Avoid dust formation.

### 6.2. Environmental precautions

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

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**6.3. Methods and material for containment and cleaning up**

Dispose of contaminated material as waste according to Section 13.  
Scrape up as much material as possible.  
Sweep up spilled material. Avoid creating dust.  
Store in a partly filled, closed container until disposal.

**6.4. Reference to other sections**

See advice in section 8

|                                        |
|----------------------------------------|
| <b>SECTION 7: Handling and storage</b> |
|----------------------------------------|

**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.  
Keep container tightly sealed.

**7.3. Specific end use(s)**

Threadlocker

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**Valid for  
Great Britain

| Ingredient [Regulated substance]                                       | ppm | mg/m <sup>3</sup> | Value type                        | Short term exposure limit category / Remarks | Regulatory list |
|------------------------------------------------------------------------|-----|-------------------|-----------------------------------|----------------------------------------------|-----------------|
| Silicon dioxide<br>112945-52-5<br>[SILICA, AMORPHOUS, INHALABLE DUST]  |     | 6                 | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Silicon dioxide<br>112945-52-5<br>[SILICA, AMORPHOUS, RESPIRABLE DUST] |     | 2,4               | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Silicon dioxide<br>112945-52-5<br>[Dust, respirable dust]              |     | 4                 | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Silicon dioxide<br>112945-52-5<br>[Dust, inhalable dust]               |     | 10                | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Ethene, homopolymer<br>9002-88-4<br>[DUST, INHALABLE DUST]             |     | 10                | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Ethene, homopolymer<br>9002-88-4<br>[DUST, RESPIRABLE DUST]            |     | 4                 | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Methacrylic acid<br>79-41-4<br>[METHACRYLIC ACID]                      | 20  | 72                | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Methacrylic acid<br>79-41-4<br>[METHACRYLIC ACID]                      | 40  | 143               | Short Term Exposure Limit (STEL): | 15 minutes                                   | EH40 WEL        |

**Occupational Exposure Limits**Valid for  
Ireland

| Ingredient [Regulated substance]                         | ppm | mg/m <sup>3</sup> | Value type                        | Short term exposure limit category / Remarks | Regulatory list |
|----------------------------------------------------------|-----|-------------------|-----------------------------------|----------------------------------------------|-----------------|
| Silicon dioxide<br>112945-52-5<br>[SILICA, AMORPHOUS]    |     | 6                 | Time Weighted Average (TWA):      |                                              | IR_OEL          |
| Silicon dioxide<br>112945-52-5<br>[SILICA, AMORPHOUS]    |     | 2,4               | Time Weighted Average (TWA):      |                                              | IR_OEL          |
| Silicon dioxide<br>112945-52-5<br>[DUSTS NON-SPECIFIC]   |     | 10                | Time Weighted Average (TWA):      |                                              | IR_OEL          |
| Silicon dioxide<br>112945-52-5<br>[DUSTS NON-SPECIFIC]   |     | 4                 | Time Weighted Average (TWA):      |                                              | IR_OEL          |
| Ethene, homopolymer<br>9002-88-4<br>[DUSTS NON-SPECIFIC] |     | 10                | Time Weighted Average (TWA):      |                                              | IR_OEL          |
| Ethene, homopolymer<br>9002-88-4<br>[DUSTS NON-SPECIFIC] |     | 4                 | Time Weighted Average (TWA):      |                                              | IR_OEL          |
| Methacrylic acid<br>79-41-4<br>[METHACRYLIC ACID]        | 20  | 70                | Time Weighted Average (TWA):      |                                              | IR_OEL          |
| Methacrylic acid<br>79-41-4<br>[METHACRYLIC ACID]        | 40  | 140               | Short Term Exposure Limit (STEL): | 15 minutes                                   | IR_OEL          |



**Predicted No-Effect Concentration (PNEC):**

| Name on list                                                                                                | Environmental<br>Compartment       | Exposure<br>period | Value           |     |                 |        | Remarks |
|-------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------|-----------------|-----|-----------------|--------|---------|
|                                                                                                             |                                    |                    | mg/l            | ppm | mg/kg           | others |         |
| Tetramethylene dimethacrylate<br>2082-81-7                                                                  | aqua<br>(freshwater)               |                    | 0,043 mg/l      |     |                 |        |         |
| Tetramethylene dimethacrylate<br>2082-81-7                                                                  | aqua (marine<br>water)             |                    | 0,004 mg/l      |     |                 |        |         |
| Tetramethylene dimethacrylate<br>2082-81-7                                                                  | aqua<br>(intermittent<br>releases) |                    | 0,098 mg/l      |     |                 |        |         |
| Tetramethylene dimethacrylate<br>2082-81-7                                                                  | sewage<br>treatment plant<br>(STP) |                    | 2 mg/l          |     |                 |        |         |
| Tetramethylene dimethacrylate<br>2082-81-7                                                                  | sediment<br>(freshwater)           |                    |                 |     | 3,12 mg/kg      |        |         |
| Tetramethylene dimethacrylate<br>2082-81-7                                                                  | sediment<br>(marine water)         |                    |                 |     | 0,312<br>mg/kg  |        |         |
| Tetramethylene dimethacrylate<br>2082-81-7                                                                  | Soil                               |                    |                 |     | 0,573<br>mg/kg  |        |         |
| 2-[[2,2-Bis[[[1-<br>oxoallyl)oxy]methyl]butoxy]methyl]-2-<br>ethyl-1,3-propanediyl diacrylate<br>94108-97-1 | aqua<br>(freshwater)               |                    | 0,0012<br>mg/l  |     |                 |        |         |
| 2-[[2,2-Bis[[[1-<br>oxoallyl)oxy]methyl]butoxy]methyl]-2-<br>ethyl-1,3-propanediyl diacrylate<br>94108-97-1 | Soil                               |                    |                 |     | 0,096<br>mg/kg  |        |         |
| 2-[[2,2-Bis[[[1-<br>oxoallyl)oxy]methyl]butoxy]methyl]-2-<br>ethyl-1,3-propanediyl diacrylate<br>94108-97-1 | sediment<br>(marine water)         |                    |                 |     | 0,005<br>mg/kg  |        |         |
| 2-[[2,2-Bis[[[1-<br>oxoallyl)oxy]methyl]butoxy]methyl]-2-<br>ethyl-1,3-propanediyl diacrylate<br>94108-97-1 | sediment<br>(freshwater)           |                    |                 |     | 0,048<br>mg/kg  |        |         |
| 2-[[2,2-Bis[[[1-<br>oxoallyl)oxy]methyl]butoxy]methyl]-2-<br>ethyl-1,3-propanediyl diacrylate<br>94108-97-1 | sewage<br>treatment plant<br>(STP) |                    | 100 mg/l        |     |                 |        |         |
| 2-[[2,2-Bis[[[1-<br>oxoallyl)oxy]methyl]butoxy]methyl]-2-<br>ethyl-1,3-propanediyl diacrylate<br>94108-97-1 | aqua<br>(intermittent<br>releases) |                    | 0,012 mg/l      |     |                 |        |         |
| 2-[[2,2-Bis[[[1-<br>oxoallyl)oxy]methyl]butoxy]methyl]-2-<br>ethyl-1,3-propanediyl diacrylate<br>94108-97-1 | aqua (marine<br>water)             |                    | 0,00012<br>mg/l |     |                 |        |         |
| .alpha.,.alpha.-Dimethylbenzyl<br>hydroperoxide<br>80-15-9                                                  | aqua<br>(freshwater)               |                    | 0,0031<br>mg/l  |     |                 |        |         |
| .alpha.,.alpha.-Dimethylbenzyl<br>hydroperoxide<br>80-15-9                                                  | aqua<br>(intermittent<br>releases) |                    | 0,031 mg/l      |     |                 |        |         |
| .alpha.,.alpha.-Dimethylbenzyl<br>hydroperoxide<br>80-15-9                                                  | aqua (marine<br>water)             |                    | 0,00031<br>mg/l |     |                 |        |         |
| .alpha.,.alpha.-Dimethylbenzyl<br>hydroperoxide<br>80-15-9                                                  | sewage<br>treatment plant<br>(STP) |                    | 0,35 mg/l       |     |                 |        |         |
| .alpha.,.alpha.-Dimethylbenzyl<br>hydroperoxide<br>80-15-9                                                  | sediment<br>(freshwater)           |                    |                 |     | 0,023<br>mg/kg  |        |         |
| .alpha.,.alpha.-Dimethylbenzyl<br>hydroperoxide<br>80-15-9                                                  | sediment<br>(marine water)         |                    |                 |     | 0,0023<br>mg/kg |        |         |
| .alpha.,.alpha.-Dimethylbenzyl<br>hydroperoxide<br>80-15-9                                                  | Soil                               |                    |                 |     | 0,0029<br>mg/kg |        |         |
| methacrylic acid<br>79-41-4                                                                                 | aqua<br>(freshwater)               |                    | 0,82 mg/l       |     |                 |        |         |

|                             |                                    |  |            |  |                |  |                                     |
|-----------------------------|------------------------------------|--|------------|--|----------------|--|-------------------------------------|
| methacrylic acid<br>79-41-4 | Freshwater -<br>intermittent       |  | 0,45 mg/l  |  |                |  |                                     |
| methacrylic acid<br>79-41-4 | aqua (marine<br>water)             |  | 0,082 mg/l |  |                |  |                                     |
| methacrylic acid<br>79-41-4 | sewage<br>treatment plant<br>(STP) |  | 100 mg/l   |  |                |  |                                     |
| methacrylic acid<br>79-41-4 | sediment<br>(freshwater)           |  |            |  | 3,09 mg/kg     |  |                                     |
| methacrylic acid<br>79-41-4 | sediment<br>(marine water)         |  |            |  | 0,309<br>mg/kg |  |                                     |
| methacrylic acid<br>79-41-4 | Soil                               |  |            |  | 0,137<br>mg/kg |  |                                     |
| methacrylic acid<br>79-41-4 | Predator                           |  |            |  |                |  | no potential for<br>bioaccumulation |

**Derived No-Effect Level (DNEL):**

| Name on list                                                  | Application Area   | Route of Exposure | Health Effect                                | Exposure Time | Value       | Remarks                          |
|---------------------------------------------------------------|--------------------|-------------------|----------------------------------------------|---------------|-------------|----------------------------------|
| Tetramethylene dimethacrylate<br>2082-81-7                    | Workers            | dermal            | Long term exposure - systemic effects        |               | 4,2 mg/kg   |                                  |
| Tetramethylene dimethacrylate<br>2082-81-7                    | Workers            | inhalation        | Long term exposure - systemic effects        |               | 14,5 mg/m3  |                                  |
| Tetramethylene dimethacrylate<br>2082-81-7                    | General population | inhalation        | Long term exposure - systemic effects        |               | 4,3 mg/m3   |                                  |
| Tetramethylene dimethacrylate<br>2082-81-7                    | General population | dermal            | Long term exposure - systemic effects        |               | 2,5 mg/kg   |                                  |
| Tetramethylene dimethacrylate<br>2082-81-7                    | General population | oral              | Long term exposure - systemic effects        |               | 2,5 mg/kg   |                                  |
| N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)<br>----- | Workers            | inhalation        | Long term exposure - systemic effects        |               | 35,24 mg/m3 |                                  |
| N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)<br>----- | Workers            | inhalation        | Acute/short term exposure - systemic effects |               | 35,24 mg/m3 |                                  |
| N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)<br>----- | Workers            | inhalation        | Long term exposure - local effects           |               | 3,35 mg/m3  |                                  |
| N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)<br>----- | Workers            | inhalation        | Acute/short term exposure - local effects    |               | 3,35 mg/m3  |                                  |
| N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)<br>----- | General population | inhalation        | Long term exposure - systemic effects        |               | 8,69 mg/m3  |                                  |
| N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)<br>----- | General population | inhalation        | Acute/short term exposure - systemic effects |               | 8,69 mg/m3  |                                  |
| N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)<br>----- | General population | inhalation        | Long term exposure - local effects           |               | 0,83 mg/m3  |                                  |
| N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)<br>----- | General population | inhalation        | Acute/short term exposure - local effects    |               | 0,83 mg/m3  |                                  |
| N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)<br>----- | General population | oral              | Long term exposure - systemic effects        |               | 5 mg/kg     |                                  |
| N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)<br>----- | General population | oral              | Acute/short term exposure - systemic effects |               | 5 mg/kg     |                                  |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide<br>80-15-9       | Workers            | inhalation        | Long term exposure - systemic effects        |               | 6 mg/m3     |                                  |
| methacrylic acid<br>79-41-4                                   | Workers            | Inhalation        | Long term exposure - local effects           |               | 88 mg/m3    | no potential for bioaccumulation |
| methacrylic acid<br>79-41-4                                   | Workers            | Inhalation        | Long term exposure - systemic effects        |               | 29,6 mg/m3  | no potential for bioaccumulation |
| methacrylic acid<br>79-41-4                                   | Workers            | dermal            | Long term exposure - systemic effects        |               | 4,25 mg/kg  | no potential for bioaccumulation |
| methacrylic acid<br>79-41-4                                   | General population | Inhalation        | Long term exposure - local effects           |               | 6,55 mg/m3  | no potential for bioaccumulation |
| methacrylic acid<br>79-41-4                                   | General population | Inhalation        | Long term exposure - systemic effects        |               | 6,3 mg/m3   | no potential for bioaccumulation |
| methacrylic acid<br>79-41-4                                   | General population | dermal            | Long term exposure - systemic effects        |               | 2,55 mg/kg  | no potential for bioaccumulation |

#### 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

Dust mask, P2 particle filter.

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

|                                        |                                                                                                                                     |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Delivery form                          | solid, paste                                                                                                                        |
| Colour                                 | Blue                                                                                                                                |
| Odor                                   | Mild, acrylic                                                                                                                       |
| Physical state                         | solid                                                                                                                               |
| Melting point                          | > 80 °C (> 176 °F)                                                                                                                  |
| Solidification temperature             | Not applicable, Product is a solid                                                                                                  |
| Initial boiling point                  | > 150 °C (> 302 °F)                                                                                                                 |
| Flammability                           | Not applicable<br>Non flammable product (flash point is greater than 93°C)                                                          |
| Explosive limits                       | Not applicable, Product is a solid                                                                                                  |
| Flash point                            | Not applicable, Product is a solid                                                                                                  |
| Auto-ignition temperature              | Not applicable, Product is a solid                                                                                                  |
| Decomposition temperature              | Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use |
| pH                                     | Product is non-polar/aprotic., Not applicable                                                                                       |
| Viscosity (kinematic)                  | Not applicable, Product is a solid                                                                                                  |
| Solubility (qualitative)               | Slight                                                                                                                              |
| (20 °C (68 °F); Solvent: Water)        |                                                                                                                                     |
| Partition coefficient: n-octanol/water | Not applicable                                                                                                                      |

|                                        |                                      |
|----------------------------------------|--------------------------------------|
| Vapour pressure<br>(26,7 °C (80.1 °F)) | Mixture<br>< 5 mm hg                 |
| Vapour pressure<br>(20 °C (68 °F))     | < 0,13 mbar                          |
| Density<br>(25 °C (77 °F))             | 1,1 g/cm3 no method / method unknown |
| Relative vapour density:               | Not applicable, Product is a solid   |
| Particle characteristics               | Not applicable, mixture is a paste.  |

## 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****11.1 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<br>CAS-No.                                                                                                               | Value<br>type                 | Value         | Species | Method                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|---------|-------------------------------------------------------------------|
| Tetramethylene dimethacrylate<br>2082-81-7                                                                                                    | LD50                          | 10.066 mg/kg  | rat     | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| 2-[[[2,2-bis[(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate<br>94108-97-1                                           | LD50                          | > 5.000 mg/kg | rat     | OECD Guideline 401 (Acute Oral Toxicity)                          |
| Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide), Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]<br>----- | LD50                          | > 2.000 mg/kg | rat     | OECD Guideline 423 (Acute Oral toxicity)                          |
| Cumene hydroperoxide<br>80-15-9                                                                                                               | LD50                          | 382 mg/kg     | rat     | other guideline:                                                  |
| N,N-Diethyl-p-toluidine<br>613-48-9                                                                                                           | Acute toxicity estimate (ATE) | 100 mg/kg     |         | Expert judgement                                                  |
| Acetic acid, 2-phenylhydrazide<br>114-83-0                                                                                                    | LD50                          | 310 mg/kg     | rat     | OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)   |
| N,N-dimethyl-o-toluidine<br>609-72-3                                                                                                          | Acute toxicity estimate (ATE) | 100 mg/kg     |         | Expert judgement                                                  |
| methacrylic acid<br>79-41-4                                                                                                                   | LD50                          | 1.320 mg/kg   | rat     | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| 1,4-Naphthalenedione<br>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.

| <b>Hazardous substances<br/>CAS-No.</b>                                                              | <b>Value<br/>type</b>         | <b>Value</b>      | <b>Species</b> | <b>Method</b>             |
|------------------------------------------------------------------------------------------------------|-------------------------------|-------------------|----------------|---------------------------|
| Tetramethylene dimethacrylate<br>2082-81-7                                                           | LD50                          | > 3.000 mg/kg     | rabbit         | not specified             |
| 2-[[[2,2-bis[[[1-oxoallyl]oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate<br>94108-97-1 | LD50                          | > 2.000 mg/kg     | rat            | not specified             |
| Cumene hydroperoxide<br>80-15-9                                                                      | Acute toxicity estimate (ATE) | 1.100 mg/kg       |                | Expert judgement          |
| N,N-Diethyl-p-toluidine<br>613-48-9                                                                  | Acute toxicity estimate (ATE) | 300 mg/kg         |                | Expert judgement          |
| N,N-dimethyl-o-toluidine<br>609-72-3                                                                 | Acute toxicity estimate (ATE) | 300 mg/kg         |                | Expert judgement          |
| methacrylic acid<br>79-41-4                                                                          | LD50                          | 500 - 1.000 mg/kg | rabbit         | Dermal Toxicity Screening |
| methacrylic acid<br>79-41-4                                                                          | Acute toxicity estimate (ATE) | 500 mg/kg         |                | Expert judgement          |

**Acute inhalative toxicity:**

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

| Hazardous substances<br>CAS-No.                                                                                                           | Value<br>type                 | Value           | Test atmosphere | Exposure<br>time | Species | Method                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------|-----------------|------------------|---------|--------------------------------------------------------------------------------|
| Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide), Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]----- | LC50                          | > 5,05 mg/l     | dust/mist       | 4 h              | rat     | OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class (ATC) Method) |
| Cumene hydroperoxide 80-15-9                                                                                                              | LC50                          | 1,370 mg/l      | vapour          | 4 h              | rat     | not specified                                                                  |
| N,N-Diethyl-p-toluidine 613-48-9                                                                                                          | Acute toxicity estimate (ATE) | 3 mg/l          | vapour          |                  |         | Expert judgement                                                               |
| N,N-dimethyl-o-toluidine 609-72-3                                                                                                         | Acute toxicity estimate (ATE) | 0,5 mg/l        | dust/mist       | 4 h              |         | Expert judgement                                                               |
| methacrylic acid 79-41-4                                                                                                                  | LC50                          | 3,19 - 6,5 mg/l | dust/mist       | 4 h              | rat     | equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)        |
| methacrylic acid 79-41-4                                                                                                                  | Acute toxicity estimate (ATE) | 3,19 mg/l       | dust/mist       |                  |         | Expert judgement                                                               |
| 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<br>CAS-No.         | Result                  | Exposure<br>time | Species                                                    | Method                                                                                         |
|-----------------------------------------|-------------------------|------------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Tetramethylene dimethacrylate 2082-81-7 | not irritating          | 24 h             | rabbit                                                     | FDA Guideline                                                                                  |
| Cumene hydroperoxide 80-15-9            | corrosive               |                  | rabbit                                                     | Draize Test                                                                                    |
| N,N-Diethyl-p-toluidine 613-48-9        | irritating              | 4 h              | rabbit                                                     | OECD Guideline 404 (Acute Dermal Irritation / Corrosion)                                       |
| Acetic acid, 2-phenylhydrazide 114-83-0 | not corrosive           |                  | Human, EpiSkinTM (SM), Reconstructed Human Epidermis (RHE) | OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)  |
| Acetic acid, 2-phenylhydrazide 114-83-0 | not irritating          |                  | Human, EpiSkinTM (SM), Reconstructed Human Epidermis (RHE) | OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method) |
| methacrylic acid 79-41-4                | corrosive               | 3 min            | rabbit                                                     | OECD Guideline 404 (Acute Dermal Irritation / Corrosion)                                       |
| 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<br>CAS-No.                                                                    | Result                   | Exposure<br>time | Species                   | Method                                                                         |
|----------------------------------------------------------------------------------------------------|--------------------------|------------------|---------------------------|--------------------------------------------------------------------------------|
| Tetramethylene<br>dimethacrylate<br>2082-81-7                                                      | not irritating           |                  | rabbit                    | equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| 2-[[2,2-bis[(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate<br>94108-97-1 | Category 2<br>(irritant) |                  | rabbit                    | EU Method B.5 (Acute Toxicity: Eye Irritation / Corrosion)                     |
| Acetic acid, 2-phenylhydrazide<br>114-83-0                                                         | not irritating           |                  | Chicken, eye,<br>isolated | OECD Guideline 438 (Isolated Chicken Eye Test Method)                          |
| methacrylic acid<br>79-41-4                                                                        | corrosive                |                  | rabbit                    | Draize Test                                                                    |

**Respiratory or skin sensitization:**

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

| Hazardous substances<br>CAS-No.                                                                                                               | Result          | Test type                                 | Species                                    | Method                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------|--------------------------------------------|---------------------------------------------------------------------|
| Tetramethylene<br>dimethacrylate<br>2082-81-7                                                                                                 | sensitising     | Mouse local lymphnode<br>assay (LLNA)     | mouse                                      | OECD Guideline 429 (Skin Sensitisation:<br>Local Lymph Node Assay)  |
| Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide), Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]<br>----- | sensitising     | Guinea pig maximisation<br>test           | guinea pig                                 | OECD Guideline 406 (Skin Sensitisation)                             |
| Acetic acid, 2-phenylhydrazide<br>114-83-0                                                                                                    | positive        | Direct peptide reactivity<br>assay (DPRA) | cysteine and<br>lysine, in<br>chemico test | OECD Guideline 442C (Direct Peptide<br>Reactivity Assay (DPRA))     |
| Acetic acid, 2-phenylhydrazide<br>114-83-0                                                                                                    | positive        | Activation of keratinocytes               | human<br>keratinocytes,<br>in vitro test   | OECD Guideline 442D (ARE-Nrf2<br>Luciferase Test Method)            |
| Acetic acid, 2-phenylhydrazide<br>114-83-0                                                                                                    | positive        | activation of dendritic cells             | human<br>monocytes, in<br>vitro test       | OECD Guideline 442E (H-CLAT:<br>Human Cell Line Activation Test)    |
| methacrylic acid<br>79-41-4                                                                                                                   | not sensitising | Buehler test                              | guinea pig                                 | equivalent or similar to OECD Guideline<br>406 (Skin Sensitisation) |
| 1,4-Naphthalenedione<br>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<br>CAS-No.                | Result                                         | Type of study /<br>Route of<br>administration          | Metabolic<br>activation /<br>Exposure time | Species | Method                                                                               |
|------------------------------------------------|------------------------------------------------|--------------------------------------------------------|--------------------------------------------|---------|--------------------------------------------------------------------------------------|
| Tetramethylene<br>dimethacrylate<br>2082-81-7  | negative                                       | bacterial reverse<br>mutation assay (e.g<br>Ames test) | with and without                           |         | OECD Guideline 471<br>(Bacterial Reverse Mutation<br>Assay)                          |
| Tetramethylene<br>dimethacrylate<br>2082-81-7  | negative                                       | in vitro mammalian<br>chromosome<br>aberration test    | with and without                           |         | OECD Guideline 473 (In vitro<br>Mammalian Chromosome<br>Aberration Test)             |
| Tetramethylene<br>dimethacrylate<br>2082-81-7  | positive<br>without<br>metabolic<br>activation | in vitro mammalian<br>chromosome<br>aberration test    | with and without                           |         | OECD Guideline 473 (In vitro<br>Mammalian Chromosome<br>Aberration Test)             |
| Tetramethylene<br>dimethacrylate<br>2082-81-7  | negative                                       | in vitro mammalian<br>chromosome<br>aberration test    | with and without                           |         | OECD Guideline 476 (In vitro<br>Mammalian Cell Gene<br>Mutation Test)                |
| Cumene hydroperoxide<br>80-15-9                | positive                                       | bacterial reverse<br>mutation assay (e.g<br>Ames test) | without                                    |         | OECD Guideline 471<br>(Bacterial Reverse Mutation<br>Assay)                          |
| Acetic acid, 2-<br>phenylhydrazide<br>114-83-0 | positive                                       | bacterial reverse<br>mutation assay (e.g<br>Ames test) | with and without                           |         | OECD Guideline 471<br>(Bacterial Reverse Mutation<br>Assay)                          |
| Acetic acid, 2-<br>phenylhydrazide<br>114-83-0 | negative                                       | in vitro mammalian<br>cell micronucleus<br>test        | with and without                           |         | OECD Guideline 487 (In vitro<br>Mammalian Cell<br>Micronucleus Test)                 |
| methacrylic acid<br>79-41-4                    | negative                                       | bacterial reverse<br>mutation assay (e.g<br>Ames test) | with and without                           |         | equivalent or similar to OECD<br>Guideline 471 (Bacterial<br>Reverse Mutation Assay) |

**Carcinogenicity**

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

| Hazardous components<br>CAS-No.                | Result           | Route of<br>application | Exposure<br>time /<br>Frequency<br>of treatment | Species | Sex         | Method                                             |
|------------------------------------------------|------------------|-------------------------|-------------------------------------------------|---------|-------------|----------------------------------------------------|
| Acetic acid, 2-<br>phenylhydrazide<br>114-83-0 | carcinogenic     | oral: drinking<br>water | continuous                                      | mouse   | male/female | not specified                                      |
| methacrylic acid<br>79-41-4                    | not carcinogenic | inhalation              | 2 y                                             | mouse   | male/female | OECD Guideline 451<br>(Carcinogenicity<br>Studies) |

**Reproductive toxicity:**

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

| Hazardous substances<br>CAS-No. | Result / Value                                                       | Test type                  | Route of<br>application | Species | Method                                                                 |
|---------------------------------|----------------------------------------------------------------------|----------------------------|-------------------------|---------|------------------------------------------------------------------------|
| methacrylic acid<br>79-41-4     | NOAEL P 50 mg/kg<br><br>NOAEL F1 400 mg/kg<br><br>NOAEL F2 400 mg/kg | Two<br>generation<br>study | oral: gavage            | rat     | OECD Guideline 416 (Two-<br>Generation Reproduction<br>Toxicity Study) |

**STOT-single exposure:**

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

| Hazardous substances<br>CAS-No. | Assessment                        | Route of<br>exposure | Target Organs | Remarks |
|---------------------------------|-----------------------------------|----------------------|---------------|---------|
| methacrylic acid<br>79-41-4     | May cause respiratory irritation. |                      |               |         |

**STOT-repeated exposure:**

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

| Hazardous substances<br>CAS-No. | Result / Value | Route of<br>application | Exposure time /<br>Frequency of<br>treatment | Species | Method                                                            |
|---------------------------------|----------------|-------------------------|----------------------------------------------|---------|-------------------------------------------------------------------|
| Cumene hydroperoxide<br>80-15-9 |                | inhalation:<br>aerosol  | 6 h/d<br>5 d/w                               | rat     | not specified                                                     |
| methacrylic acid<br>79-41-4     |                | inhalation              | 90 d<br>6 h/d, 5 d/w                         | rat     | OECD Guideline 413<br>(Subchronic Inhalation<br>Toxicity: 90-Day) |

**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.

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No.                                                                                                           | Value<br>type | Value                       | Exposure time | Species                                         | Method                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|---------------|-------------------------------------------------|----------------------------------------------------------|
| Tetramethylene dimethacrylate<br>2082-81-7                                                                                                | LC50          | 32,5 mg/l                   | 48 h          |                                                 | DIN 38412-15                                             |
| 2-[[2,2-bis[(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate<br>94108-97-1                                        | LC50          | 1,2 mg/l                    | 96 h          | Cyprinus carpio                                 | OECD Guideline 203 (Fish, Acute Toxicity Test)           |
| Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide), Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]----- | LL50          | Toxicity > Water solubility | 96 h          | Oncorhynchus mykiss                             | OECD Guideline 203 (Fish, Acute Toxicity Test)           |
| Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide), Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]----- | NOELR         | Toxicity > Water solubility | 32 d          | Pimephales promelas                             | OECD Guideline 210 (fish early lite stage toxicity test) |
| Cumene hydroperoxide<br>80-15-9                                                                                                           | LC50          | 3,9 mg/l                    | 96 h          | Oncorhynchus mykiss                             | OECD Guideline 203 (Fish, Acute Toxicity Test)           |
| N,N-Diethyl-p-toluidine<br>613-48-9                                                                                                       | LC50          | 78,62 mg/l                  | 96 h          | Danio rerio                                     | OECD Guideline 203 (Fish, Acute Toxicity Test)           |
| N,N-dimethyl-o-toluidine<br>609-72-3                                                                                                      | LC50          | 46 mg/l                     | 96 h          | Pimephales promelas                             | OECD Guideline 203 (Fish, Acute Toxicity Test)           |
| methacrylic acid<br>79-41-4                                                                                                               | LC50          | 85 mg/l                     | 96 h          | Salmo gairdneri (new name: Oncorhynchus mykiss) | EPA OTS 797.1400 (Fish Acute Toxicity Test)              |
| methacrylic acid<br>79-41-4                                                                                                               | NOEC          | 10 mg/l                     | 35 d          | Danio rerio                                     | OECD Guideline 210 (fish early lite stage toxicity test) |
| 1,4-Naphthalenedione<br>130-15-4                                                                                                          | LC50          | 0,045 mg/l                  | 96 h          | Oryzias latipes                                 | OECD Guideline 203 (Fish, Acute Toxicity Test)           |

**Toxicity (aquatic invertebrates):**

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

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No.                                                                                                           | Value<br>type | Value                       | Exposure time | Species       | Method                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|---------------|---------------|------------------------------------------------------------|
| 2-[[2,2-bis[(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate<br>94108-97-1                                        | EC50          | > 10 - 100 mg/l             | 48 h          | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide), Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]----- | EL50          | Toxicity > Water solubility | 48 h          | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |

|                                                |      |            |      |               |                                                                                           |
|------------------------------------------------|------|------------|------|---------------|-------------------------------------------------------------------------------------------|
| -----                                          |      |            |      |               |                                                                                           |
| Cumene hydroperoxide<br>80-15-9                | EC50 | 18,84 mg/l | 48 h | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>Immobilisation Test)                          |
| N,N-Diethyl-p-toluidine<br>613-48-9            | EC50 | 10,34 mg/l | 48 h | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>Immobilisation Test)                          |
| Acetic acid, 2-<br>phenylhydrazide<br>114-83-0 | EC50 | 1,1 mg/l   | 48 h | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>Immobilisation Test)                          |
| methacrylic acid<br>79-41-4                    | EC50 | > 130 mg/l | 48 h | Daphnia magna | EPA OTS 797.1300<br>(Aquatic Invertebrate Acute<br>Toxicity Test, Freshwater<br>Daphnids) |
| 1,4-Naphthalenedione<br>130-15-4               | EC50 | 0,026 mg/l | 48 h | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>Immobilisation Test)                          |

**Chronic toxicity (aquatic invertebrates):**

The table below presents the data of the classified substances present in the mixture.

| <b>Hazardous substances<br/>CAS-No.</b>                                                                                                                          | <b>Value<br/>type</b> | <b>Value</b>                   | <b>Exposure time</b> | <b>Species</b> | <b>Method</b>                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------|----------------------|----------------|------------------------------------------------|
| Tetramethylene<br>dimethacrylate<br>2082-81-7                                                                                                                    | NOEC                  | 5,09 mg/l                      | 21 d                 | Daphnia magna  | OECD 211 (Daphnia<br>magna, Reproduction Test) |
| Reaction mass of N,N'-<br>ethane-1,2-diylbis(12-<br>hydroxyoctadecan-1-amide),<br>Octadecanamide, 12-hydroxy-<br>N-[2-[(1-<br>oxooctadecyl)amino]ethyl]<br>----- | NOEC                  | Toxicity > Water<br>solubility | 21 d                 | Daphnia magna  | OECD 211 (Daphnia<br>magna, Reproduction Test) |
| methacrylic acid<br>79-41-4                                                                                                                                      | NOEC                  | 53 mg/l                        | 21 d                 | Daphnia magna  | OECD 211 (Daphnia<br>magna, Reproduction Test) |

**Toxicity (Algae):**

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

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No.                                                                                                           | Value<br>type | Value                       | Exposure time | Species                                                               | Method                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|---------------|-----------------------------------------------------------------------|---------------------------------------------------|
| Tetramethylene dimethacrylate<br>2082-81-7                                                                                                | EC50          | 9,79 mg/l                   | 72 h          | Desmodesmus subspicatus                                               | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Tetramethylene dimethacrylate<br>2082-81-7                                                                                                | NOEC          | 2,11 mg/l                   | 72 h          | Desmodesmus subspicatus                                               | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-[[2,2-bis[(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate<br>94108-97-1                                        | EC50          | > 12 mg/l                   | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-[[2,2-bis[(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate<br>94108-97-1                                        | NOEC          | > 0,1 - 1 mg/l              | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide), Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]----- | EC50          | Toxicity > Water solubility | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide), Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]----- | EC10          | Toxicity > Water solubility | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Cumene hydroperoxide<br>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<br>80-15-9                                                                                                           | NOEC          | 1 mg/l                      | 72 h          | Desmodesmus subspicatus (reported as Scenedesmus subspicatus)         | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| N,N-Diethyl-p-toluidine<br>613-48-9                                                                                                       | EC50          | 23,69 mg/l                  | 72 h          | Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)  | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Acetic acid, 2-phenylhydrazide<br>114-83-0                                                                                                | EC50          | 0,258 mg/l                  | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Acetic acid, 2-phenylhydrazide<br>114-83-0                                                                                                | NOEC          | 0,012 mg/l                  | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| methacrylic acid<br>79-41-4                                                                                                               | NOEC          | 8,2 mg/l                    | 72 h          | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| methacrylic acid<br>79-41-4                                                                                                               | EC50          | 45 mg/l                     | 72 h          | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 1,4-Naphthalenedione<br>130-15-4                                                                                                          | NOEC          | 0,07 mg/l                   | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 1,4-Naphthalenedione<br>130-15-4                                                                                                          | EC50          | 0,42 mg/l                   | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |

#### Toxicity (microorganisms):

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

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No.            | Value<br>type | Value   | Exposure time | Species                    | Method        |
|--------------------------------------------|---------------|---------|---------------|----------------------------|---------------|
| Tetramethylene dimethacrylate<br>2082-81-7 | NOEC          | 20 mg/l | 28 d          | activated sludge, domestic | not specified |

|                                  |      |           |        |                                                        |                                                                          |
|----------------------------------|------|-----------|--------|--------------------------------------------------------|--------------------------------------------------------------------------|
| Cumene hydroperoxide<br>80-15-9  | EC10 | 70 mg/l   | 30 min | not specified                                          | not specified                                                            |
| methacrylic acid<br>79-41-4      | EC10 | 100 mg/l  | 17 h   | Pseudomonas putida                                     | DIN 38412, part 8<br>(Pseudomonas<br>Zellvermehrungshemm-<br>Test)       |
| 1,4-Naphthalenedione<br>130-15-4 | EC50 | 5,94 mg/l | 3 h    | activated sludge of a<br>predominantly domestic sewage | OECD Guideline 209<br>(Activated Sludge,<br>Respiration Inhibition Test) |

## 12.2. Persistence and degradability

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No.                                                                                                                                  | Result                          | Test type     | Degradability | Exposure<br>time | Method                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------|---------------|------------------|------------------------------------------------------------------------------------------------------|
| Tetramethylene<br>dimethacrylate<br>2082-81-7                                                                                                                    | readily biodegradable           | aerobic       | 84 %          | 28 d             | OECD Guideline 310 (Ready<br>Biodegradability CO <sub>2</sub> in Sealed<br>Vessels (Headspace Test)) |
| 2-[[2,2-bis[[[(1-<br>oxoallyl)oxy]methyl]butoxy]<br>methyl]-2-ethyl-1,3-<br>propanediyl diacrylate<br>94108-97-1                                                 |                                 | aerobic       | 4 - 14 %      | 29 d             | OECD Guideline 301 B (Ready<br>Biodegradability: CO <sub>2</sub> Evolution<br>Test)                  |
| Reaction mass of N,N'-<br>ethane-1,2-diylbis(12-<br>hydroxyoctadecan-1-amide),<br>Octadecanamide, 12-hydroxy-<br>N-[2-[(1-<br>oxooctadecyl)amino]ethyl]<br>----- | not readily biodegradable.      | aerobic       | 22 %          | 28 d             | OECD Guideline 301 D (Ready<br>Biodegradability: Closed Bottle<br>Test)                              |
| Reaction mass of N,N'-<br>ethane-1,2-diylbis(12-<br>hydroxyoctadecan-1-amide),<br>Octadecanamide, 12-hydroxy-<br>N-[2-[(1-<br>oxooctadecyl)amino]ethyl]<br>----- | not inherently<br>biodegradable | aerobic       | 37 %          | 60 d             | OECD Guideline 301 D (Ready<br>Biodegradability: Closed Bottle<br>Test)                              |
| Cumene hydroperoxide<br>80-15-9                                                                                                                                  | not readily biodegradable.      | aerobic       | 3 %           | 28 d             | OECD Guideline 301 B (Ready<br>Biodegradability: CO <sub>2</sub> Evolution<br>Test)                  |
| N,N-Diethyl-p-toluidine<br>613-48-9                                                                                                                              | not readily biodegradable.      | not specified | 1 %           | 28 day           | OECD Guideline 301 C (Ready<br>Biodegradability: Modified MITI<br>Test (I))                          |
| Acetic acid, 2-<br>phenylhydrazide<br>114-83-0                                                                                                                   | not readily biodegradable.      | aerobic       | 39 %          | 28 d             | OECD Guideline 301 D (Ready<br>Biodegradability: Closed Bottle<br>Test)                              |
| N,N-dimethyl-o-toluidine<br>609-72-3                                                                                                                             | not readily biodegradable.      | aerobic       | 1 %           | 14 d             | other guideline:                                                                                     |
| methacrylic acid<br>79-41-4                                                                                                                                      | readily biodegradable           | aerobic       | 86 %          | 28 d             | OECD Guideline 301 D (Ready<br>Biodegradability: Closed Bottle<br>Test)                              |
| methacrylic acid<br>79-41-4                                                                                                                                      | inherently biodegradable        | aerobic       | 100 %         | 14 d             | OECD Guideline 302 B (Inherent<br>biodegradability: Zahn-<br>Wellens/EMPA Test)                      |
| 1,4-Naphthalenedione<br>130-15-4                                                                                                                                 | not readily biodegradable.      | aerobic       | 0 %           | 28 d             | OECD Guideline 301 F (Ready<br>Biodegradability: Manometric<br>Respirometry Test)                    |

## 12.3. Bioaccumulative potential

The table below presents the data of the classified substances present in the mixture.

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

## 12.4. Mobility in soil

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No.                                                                                                           | LogPow | Temperature | Method                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|------------------------------------------------------------------------------------|
| Tetramethylene dimethacrylate<br>2082-81-7                                                                                                | 3,1    |             | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)        |
| 2-[[[2,2-bis[(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate<br>94108-97-1                                       | 4,14   | 30 °C       | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)        |
| Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide), Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]----- | 5,86   |             | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)        |
| Cumene hydroperoxide<br>80-15-9                                                                                                           | 1,6    | 25 °C       | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)        |
| N,N-Diethyl-p-toluidine<br>613-48-9                                                                                                       | 3,7    |             | QSAR (Quantitative Structure Activity Relationship)                                |
| Acetic acid, 2-phenylhydrazide<br>114-83-0                                                                                                | 0,74   |             | QSAR (Quantitative Structure Activity Relationship)                                |
| methacrylic acid<br>79-41-4                                                                                                               | 0,93   | 22 °C       | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| 1,4-Naphthalenedione<br>130-15-4                                                                                                          | 1,71   |             | not specified                                                                      |

## 12.5. Results of PBT and vPvB assessment

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No.                                                                                                           | PBT / vPvB                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Tetramethylene dimethacrylate<br>2082-81-7                                                                                                | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| 2-[[[2,2-bis[(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate<br>94108-97-1                                       | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Reaction mass of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide), Octadecanamide, 12-hydroxy-N-[2-[(1-oxooctadecyl)amino]ethyl]----- | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Cumene hydroperoxide<br>80-15-9                                                                                                           | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Acetic acid, 2-phenylhydrazide<br>114-83-0                                                                                                | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| methacrylic acid<br>79-41-4                                                                                                               | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| 1,4-Naphthalenedione<br>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 or ID 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 2024/590): | Not applicable |
| Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):    | Not applicable |
| Persistent organic pollutants (Regulation (EU) 2019/1021):     | Not applicable |
| VOC content<br>(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.  
H311 Toxic in contact with skin.  
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.  
H331 Toxic if inhaled.  
H332 Harmful 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.  
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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