

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

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# TEROSON UP 620 CAN 241G EN

SDS No. : 593337 V004.0 Revision: 09.01.2023 printing date: 10.01.2023 Replaces version from: 26.10.2021

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

**1.1. Product identifier** TEROSON UP 620 CAN 241G EN

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

Intended use: hardener component

#### 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 https://mysds.henkel.com/index.html#/appSelection or www.henkel-adhesives.com.

## **1.4. Emergency telephone number**

24 Hours Emergency Tel: +44 0 8701 906777 - For further general health & safety, technical and practical advice on this product, please call +44 (0) 1606 593933 or write to: Technical Services; Henkel Limited; Road 5; Winsford Industrial Estate; Winsford; Cheshire; CW7 3QY-Email: technical.services@henkel.co.uk

# **SECTION 2: Hazards identification**

## 2.1. Classification of the substance or mixture

| Classification (CLP):                                      |            |
|--|------------|
| Organic peroxides  | Type E     |
| H242 Heating may cause a fire.                             |            |
| Serious eye irritation                                     | Category 2 |
| H319 Causes serious eye irritation.                        |            |
| Skin sensitizer  | Category 1 |
| H317 May cause an allergic skin reaction.                  |            |
| Acute hazards to the aquatic environment                   | Category 1 |
| H400 Very toxic to aquatic life.                           |            |
| Chronic hazards to the aquatic environment                 | Category 1 |
| H410 Very toxic to aquatic life with long lasting effects. |            |

#### 2.2. Label elements

Label elements (CLP):

| Hazard pictogram:                      |   |
|--|---|
| Contains                               | Dibenzoyl peroxide  |
| Signal word:                           | Warning   |
| Hazard statement:                      | <ul><li>H242 Heating may cause a fire.</li><li>H317 May cause an allergic skin reaction.</li><li>H319 Causes serious eye irritation.</li><li>H410 Very toxic to aquatic life with long lasting effects.</li></ul> |
| Precautionary statement:               | P102 Keep out of reach of children.<br>P101 If medical advice is needed, have product container or label at hand.<br>P103 Read label before use.  |
| Precautionary statement:<br>Prevention | P280 Wear protective gloves/protective clothing/eye protection/face protection.   |
| Precautionary statement:<br>Response   | P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P302+P352 IF ON SKIN: Wash with plenty of water.               |
| Precautionary statement:<br>Storage    | P403+P235 Store in a well-ventilated place. Keep cool.  |
| Precautionary statement:<br>Disposal   | P501 Dispose of contents/container in accordance with national regulation.  |

# 2.3. Other hazards

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

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-<br>factors and ATEs | Add.<br>Information |
|--|---------------|---|---|---------------------|
| Dibenzoyl peroxide<br>94-36-0<br>202-327-6<br>01-2119511472-50 | 45- 52 %      | Org. Perox. B, H241<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 | M acute = 10<br>M chronic = 10                |                     |
| Ethane-1,2-diol<br>107-21-1<br>203-473-3<br>01-2119456816-28   | 0,1- 9,9 %    | Acute Tox. 4, Oral, H302<br>STOT RE 2, Oral, H373   | oral:ATE = 500 mg/kg                          | EU OEL              |

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, consult doctor if complaint persists.

Skin contact:

IF ON SKIN: Wash with plenty of soap and water. In case of adverse health effects seek medical advice.

Eye contact:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

EYE: Irritation, conjunctivitis.

SKIN: Rash, Urticaria.

**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:** All common extinguishing agents are suitable.

**Extinguishing media which must not be used for safety reasons:** Carbon dioxide.

5.2. Special hazards arising from the substance or mixture In case of fire toxic gases can be released.5.3. Advice for firefighters Wear self-contained breathing apparatus.

Wear protective equipment.

# **SECTION 6: Accidental release measures**

### 6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment.

Avoid contact with skin and eyes. Keep unprotected persons away.

#### **6.2. Environmental precautions**

Do not empty into drains / surface water / ground water. Inform authorities in the event of product spillage to water courses or sewage systems.

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

Remove mechanically. Dispose of contaminated material as waste according to Section 13.

## 6.4. Reference to other sections

See advice in section 8

# **SECTION 7: Handling and storage**

## 7.1. Precautions for safe handling

Avoid open flames and sources of ignition. Ground/bond container and receiving equipment. Use explosion proof electric equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Hygiene measures:

Wash hands before work breaks and after finishing work. Do not eat, drink or smoke while working.

## 7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction. Store in a cool place, max. storage temperature 30°C. Temperatures between + 5 °C and + 25 °C Keep container tightly sealed. Store in a cool, dry place. Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

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

# **SECTION 8: Exposure controls/personal protection**

# 8.1. Control parameters

# **Occupational Exposure Limits**

Valid for

Great Britain

| Ingredient [Regulated substance]                              | ррт | mg/m <sup>3</sup> | Value type                           | Short term exposure limit category / Remarks | Regulatory list |
|---|-----|-------------------|--------------------------------------|--|-----------------|
| Dibenzoyl peroxide<br>94-36-0<br>[DIBENZOYL PEROXIDE]         |     | 5                 | Time Weighted Average (TWA):         |  | EH40 WEL        |
| Dimethyl phthalate<br>131-11-3<br>[DIMETHYL PHTHALATE]        |     | 5                 | Time Weighted Average (TWA):         |  | EH40 WEL        |
| Dimethyl phthalate<br>131-11-3<br>[DIMETHYL PHTHALATE]        |     | 10                | Short Term Exposure<br>Limit (STEL): | 15 minutes                                   | EH40 WEL        |
| Ethane-1,2-diol<br>107-21-1<br>[ETHANE-1,2-DIOL, PARTICULATE] |     | 10                | Time Weighted Average (TWA):         |  | EH40 WEL        |
| Ethane-1,2-diol<br>107-21-1<br>[ETHANE-1,2-DIOL, VAPOUR]      | 20  | 52                | Time Weighted Average (TWA):         |  | EH40 WEL        |
| Ethane-1,2-diol<br>107-21-1<br>[ETHANE-1,2-DIOL, PARTICULATE] |     |                   | Skin designation:                    | Can be absorbed through the skin.            | EH40 WEL        |
| Ethane-1,2-diol<br>107-21-1<br>[ETHANE-1,2-DIOL, VAPOUR]      |     |                   | Skin designation:                    | Can be absorbed through the skin.            | EH40 WEL        |
| Ethane-1,2-diol<br>107-21-1<br>[ETHYLENE GLYCOL]              | 40  | 104               | Short Term Exposure<br>Limit (STEL): | Indicative                                   | ECTLV           |
| Ethane-1,2-diol<br>107-21-1<br>[ETHYLENE GLYCOL]              | 20  | 52                | Time Weighted Average (TWA):         | Indicative                                   | ECTLV           |
| Ethane-1,2-diol<br>107-21-1<br>[ETHANE-1,2-DIOL, VAPOUR]      | 40  | 104               | Short Term Exposure<br>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 |
|--|-----|-------------------|--------------------------------------|--|-----------------|
| Dibenzoyl peroxide<br>94-36-0<br>[DIBENZOYL PEROXIDE]    |     | 5                 | Time Weighted Average (TWA):         |  | IR_OEL          |
| Dimethyl phthalate<br>131-11-3<br>[DIMETHYL PHTHALATE]   |     | 5                 | Time Weighted Average (TWA):         |  | IR_OEL          |
| Dimethyl phthalate<br>131-11-3<br>[DIMETHYL PHTHALATE]   |     | 10                | Short Term Exposure<br>Limit (STEL): | 15 minutes                                   | IR_OEL          |
| Ethane-1,2-diol<br>107-21-1<br>[ETHYLENE GLYCOL]         | 40  | 104               | Short Term Exposure<br>Limit (STEL): | Indicative                                   | ECTLV           |
| Ethane-1,2-diol<br>107-21-1<br>[ETHYLENE GLYCOL]         | 20  | 52                | Time Weighted Average (TWA):         | Indicative                                   | ECTLV           |
| Ethane-1,2-diol<br>107-21-1<br>[ETHANE-1,2-DIOL, VAPOUR] |     | 20                | Time Weighted Average (TWA):         | Indicative OELV                              | IR_OEL          |
| Ethane-1,2-diol<br>107-21-1<br>[ETHANE-1,2-DIOL]         | 20  | 52                | Time Weighted Average (TWA):         | Indicative OELV                              | IR_OEL          |
| Ethane-1,2-diol<br>107-21-1<br>[ETHANE-1,2-DIOL]         |     |                   | Skin designation:                    | Can be absorbed through the skin.            | IR_OEL          |

| Ethane-1,2-diol   | 40 | 104 | Short Term Exposure | 15 minutes      | IR_OEL |
|-------------------|----|-----|---------------------|-----------------|--------|
| 107-21-1          |    |     | Limit (STEL):       | Indicative OELV |        |
| [Ethane-1,2-diol] |    |     |                     |                 |        |

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

| Name on list       | Environmental<br>Compartment | Exposure<br>period | Value     |     | Remarks |        |  |
|--------------------|------------------------------|--------------------|-----------|-----|---------|--------|--|
|                    |                              |                    | mg/l      | ppm | mg/kg   | others |  |
| Dibenzoyl peroxide | aqua                         |                    | 0,00002   |     |         |        |  |
| 94-36-0            | (freshwater)                 |                    | mg/l      |     |         |        |  |
| Dibenzoyl peroxide | aqua (marine                 |                    | 0,000002  |     |         |        |  |
| 94-36-0            | water)                       |                    | mg/l      |     |         |        |  |
| Dibenzoyl peroxide | sewage                       |                    | 0,35 mg/l |     |         |        |  |
| 94-36-0            | treatment plant              |                    |           |     |         |        |  |
|                    | (STP)                        |                    |           |     |         |        |  |
| Dibenzoyl peroxide | sediment                     |                    |           |     | 0,013   |        |  |
| 94-36-0            | (freshwater)                 |                    |           |     | mg/kg   |        |  |
| Dibenzoyl peroxide | Soil                         |                    |           |     | 0,003   |        |  |
| 94-36-0            |                              |                    |           |     | mg/kg   |        |  |
| Dibenzoyl peroxide | sediment                     |                    |           |     | 0,001   |        |  |
| 94-36-0            | (marine water)               |                    |           |     | mg/kg   |        |  |

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

| Name on list                  | Application<br>Area   | Route of<br>Exposure | Health Effect                               | Exposure<br>Time | Value        | Remarks |
|-------------------------------|-----------------------|----------------------|---|------------------|--------------|---------|
| Dibenzoyl peroxide<br>94-36-0 | Workers               | Inhalation           | Long term<br>exposure -<br>systemic effects |                  | 39 mg/m3     |         |
| Dibenzoyl peroxide<br>94-36-0 | Workers               | dermal               | Long term<br>exposure -<br>systemic effects |                  | 13,3 mg/kg   |         |
| Dibenzoyl peroxide<br>94-36-0 | Workers               | dermal               | Long term<br>exposure - local<br>effects    |                  | 0,034 mg/cm2 |         |
| Dibenzoyl peroxide<br>94-36-0 | General population    | oral                 | Long term<br>exposure -<br>systemic effects |                  | 2 mg/kg      |         |
| Ethane-1,2-diol<br>107-21-1   | Workers               | dermal               | Long term<br>exposure -<br>systemic effects |                  | 106 mg/kg    |         |
| Ethane-1,2-diol<br>107-21-1   | Workers               | inhalation           | Long term<br>exposure - local<br>effects    |                  | 35 mg/m3     |         |
| Ethane-1,2-diol<br>107-21-1   | General population    | dermal               | Long term<br>exposure -<br>systemic effects |                  | 53 mg/kg     |         |
| Ethane-1,2-diol<br>107-21-1   | General<br>population | inhalation           | Long term<br>exposure - local<br>effects    |                  | 7 mg/m3      |         |

# Biological Exposure Indices:

None

## 8.2. Exposure controls:

Engineering controls: Ensure good ventilation/extraction.

Respiratory protection:

In case of dust formation, we recommend wearing of appropriate respiratory protection equipment with particle filter P (EN 14387).

This recommendation should be matched to local conditions.

#### 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; >= 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: Goggles which can be tightly sealed. Protective eye equipment should conform to EN166.

Skin protection: Wear protective equipment. Protective clothing that covers arms and legs. Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway), or equivalent.

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

| mor mution on busic physical and chemical | properties   |
|---|--|
| Physical state                            | solid  |
| Delivery form                             | paste  |
| Colour                                    | Currently under determination                      |
| Odor                                      | characteristic                                     |
| Solidification temperature                | Not applicable, Product is a solid.                |
| Initial boiling point                     | Currently under determination                      |
| Flammability                              | Currently under determination                      |
| Explosive limits                          | Not applicable, Product is a solid.                |
| Flash point                               | Currently under determination                      |
| Auto-ignition temperature                 | Not applicable, Product is a solid.                |
| Decomposition temperature                 | Currently under determination                      |
| pH  | Not applicable, Product is non-soluble (in water). |
| Viscosity (kinematic)                     | Not applicable, Product is a solid.                |
| Solubility (qualitative)                  | Insoluble  |
| (20 °C (68 °F))                           |  |
| Partition coefficient: n-octanol/water    | Not applicable                                     |
|   | Mixture  |
| Vapour pressure                           | Currently under determination                      |
| Density                                   | 1,15 - 1,25 g/cm3 no method                        |
| (20 °C (68 °F))                           |  |
| Relative vapour density:                  | Not applicable, Product is a solid.                |
|   |  |

#### 9.2. Other information

Particle characteristics

Other information not applicable for this product

Not applicable, Product is a solution

# **SECTION 10: Stability and reactivity**

10.1. Reactivity

Reducing agents. Reacts with alkalis. Reaction with amines Heavy metals. Reaction with strong acids.

#### **10.2.** Chemical stability

Stable under recommended storage conditions.

# 10.3. Possibility of hazardous reactions

See section reactivity 10.4. Conditions to avoid

None if used for intended purpose.

## **10.5. Incompatible materials**

See section reactivity.

# 10.6. Hazardous decomposition products

Benzoic acid Benzene Biphenyl Phenyl benzoate

## **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          | Value                                  | Value         | Species | Method                                   |
|-------------------------------|--|---------------|---------|--|
| CAS-No.                       | type                                   |               |         |  |
| Dibenzoyl peroxide<br>94-36-0 | LD50                                   | > 2.000 mg/kg | mouse   | OECD Guideline 401 (Acute Oral Toxicity) |
| Ethane-1,2-diol<br>107-21-1   | Acute<br>toxicity<br>estimate<br>(ATE) | 500 mg/kg     |         | Expert judgement                         |

#### Acute dermal 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        |
|---------------------------------|---------------|--------------|---------|---------------|
| Ethane-1,2-diol<br>107-21-1     | LD50          | 10.600 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          | Value | Value       | Test atmosphere |      | Species | Method  |
|-------------------------------|-------|-------------|-----------------|------|---------|---|
| CAS-No.                       | type  |             |                 | time |         |   |
| Dibenzoyl peroxide<br>94-36-0 | LC0   | 24,3 mg/l   | dust/mist       | 4 h  | rat     | equivalent or similar to OECD<br>Guideline 403 (Acute<br>Inhalation Toxicity) |
| Dibenzoyl peroxide<br>94-36-0 | LC50  | > 24,3 mg/l | dust/mist       | 4 h  | rat     | equivalent or similar to OECD<br>Guideline 403 (Acute<br>Inhalation Toxicity) |

#### Skin corrosion/irritation:

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

| Hazardous substances          | Result         | Exposure | Species | Method   |
|-------------------------------|----------------|----------|---------|--|
| CAS-No.                       |                | time     |         |  |
| Dibenzoyl peroxide<br>94-36-0 | not irritating | 4 h      | rabbit  | equivalent or similar to OECD Guideline 404 (Acute<br>Dermal Irritation / Corrosion) |
| Ethane-1,2-diol<br>107-21-1   | not irritating | 20 h     | rabbit  | BASF Test  |

#### 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        |
|---------------------------------|----------------|------------------|---------|---------------|
| Dibenzoyl peroxide<br>94-36-0   | not irritating |                  | rabbit  | FDA Guideline |
| Ethane-1,2-diol<br>107-21-1     | not irritating |                  | rabbit  | BASF 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   |
|---------------------------------|-----------------|---------------------------------------|------------|--|
| Dibenzoyl peroxide<br>94-36-0   | sensitising     | Mouse local lymphnode<br>assay (LLNA) | mouse      | equivalent or similar to OECD Guideline<br>429 (Skin Sensitisation: Local Lymph<br>Node Assay) |
| Ethane-1,2-diol<br>107-21-1     | not sensitising | Guinea pig maximisation test          | guinea pig | OECD Guideline 406 (Skin Sensitisation)  |

#### Germ cell mutagenicity:

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

| Hazardous substances | Result   | Type of study /     | Metabolic        | Species | Method                       |
|----------------------|----------|---------------------|------------------|---------|------------------------------|
| CAS-No.              |          | Route of            | activation /     |         |                              |
|                      |          | administration      | Exposure time    |         |                              |
| Dibenzoyl peroxide   | negative | bacterial reverse   | with and without |         | OECD Guideline 471           |
| 94-36-0              |          | mutation assay (e.g |                  |         | (Bacterial Reverse Mutation  |
|                      |          | Ames test)          |                  |         | Assay)                       |
| Dibenzoyl peroxide   | negative | mammalian cell      | with and without |         | OECD Guideline 476 (In vitro |
| 94-36-0              |          | gene mutation assay |                  |         | Mammalian Cell Gene          |
|                      |          |                     |                  |         | Mutation Test)               |
| Ethane-1,2-diol      | negative | bacterial reverse   | with and without |         | OECD Guideline 471           |
| 107-21-1             |          | mutation assay (e.g |                  |         | (Bacterial Reverse Mutation  |
|                      |          | Ames test)          |                  |         | Assay)                       |
| Dibenzoyl peroxide   | negative | intraperitoneal     |                  | mouse   | OECD Guideline 474           |
| 94-36-0              |          |                     |                  |         | (Mammalian Erythrocyte       |
|                      |          |                     |                  |         | Micronucleus Test)           |
| Ethane-1,2-diol      | negative | oral: feed          |                  | rat     | Chromosome Aberration Test   |
| 107-21-1             |          |                     |                  |         |                              |

## 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 application | Exposure<br>time /<br>Frequency<br>of treatment | Species | Sex         | Method  |
|---------------------------------|------------------|----------------------|---|---------|-------------|---|
| Dibenzoyl peroxide<br>94-36-0   | not carcinogenic | dermal               | 2 y<br>daily                                    | rat     | male/female | equivalent or similar<br>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 application | Species | Method  |
|---------------------------------|--|-----------|----------------------|---------|---|
| Dibenzoyl peroxide<br>94-36-0   | NOAEL P >= 1.000 mg/kg<br>NOAEL F1 500 mg/kg | screening | oral: gavage         | rat     | OECD Guideline 422<br>(Combined Repeated Dose<br>Toxicity Study with the<br>Reproduction /<br>Developmental Toxicity<br>Screening Test) |

# 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<br>CAS-No. | Result / Value    | Route of application | Exposure time /<br>Frequency of<br>treatment | Species | Method   |
|---------------------------------|-------------------|----------------------|--|---------|--|
| Dibenzoyl peroxide<br>94-36-0   | NOAEL 190 mg/kg   | oral: feed           | 120 w<br>daily                               | rat     | not specified  |
| Dibenzoyl peroxide<br>94-36-0   | NOAEL > 833 mg/kg | dermal               | 104 w<br>daily                               | mouse   | OECD Guideline 451<br>(Carcinogenicity Studies)  |
| Ethane-1,2-diol<br>107-21-1     | NOAEL 150 mg/kg   | oral: feed           | 16 w<br>daily                                | rat     | equivalent or similar to<br>OECD Guideline 408<br>(Repeated Dose 90-Day<br>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, soil or bodies of water.

## 12.1. Toxicity

## Toxicity (Fish):

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

| Hazardous substances | Value | Value       | Exposure time | Species             | Method                    |
|----------------------|-------|-------------|---------------|---------------------|---------------------------|
| CAS-No.              | type  |             |               |                     |                           |
| Dibenzoyl peroxide   | LC50  | 0,06 mg/l   | 96 h          | Oncorhynchus mykiss | OECD Guideline 203 (Fish, |
| 94-36-0              |       |             |               |                     | Acute Toxicity Test)      |
| Ethane-1,2-diol      | LC50  | 72.860 mg/l | 96 h          | Pimephales promelas | EPA-660 (Methods for      |
| 107-21-1             |       |             |               |                     | Acute Toxicity Tests with |
|                      |       |             |               |                     | Fish, Macroinvertebrates  |
|                      |       |             |               |                     | and Amphibians)           |
| Ethane-1,2-diol      | NOEC  | 15.380 mg/l | 7 d           | Pimephales promelas | other guideline:          |
| 107-21-1             |       |             |               |                     |                           |

## Toxicity (Daphnia):

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

| Hazardous substances          | Value | Value      | Exposure time | Species       | Method   |
|-------------------------------|-------|------------|---------------|---------------|--|
| CAS-No.                       | type  |            |               |               |  |
| Dibenzoyl peroxide<br>94-36-0 | EC50  | 0,11 mg/l  | 48 h          | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>Immobilisation Test) |
| Ethane-1,2-diol<br>107-21-1   | EC50  | > 100 mg/l | 48 h          | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>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<br>CAS-No. | Value<br>type | Value      | Exposure time | Species            | Method   |
|---------------------------------|---------------|------------|---------------|--------------------|--|
| Dibenzoyl peroxide<br>94-36-0   | EC10          | 0,001 mg/l | 21 d          | 1 0                | OECD 211 (Daphnia<br>magna, Reproduction Test) |
| Ethane-1,2-diol<br>107-21-1     | NOEC          | 8.590 mg/l | 7 d           | Ceriodaphnia dubia | other guideline:                               |

Toxicity (Algae):

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

| Hazardous substances          | Value | Value                 | Exposure time | Species                         | Method   |
|-------------------------------|-------|-----------------------|---------------|---------------------------------|--|
| CAS-No.                       | type  |                       |               |                                 |  |
| Dibenzoyl peroxide<br>94-36-0 | ErC50 | 0,071 mg/l            | 72 h          | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Dibenzoyl peroxide<br>94-36-0 | NOEC  | 0,02 mg/l             | 72 h          | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Ethane-1,2-diol<br>107-21-1   | EC50  | > 6.500 - 13.000 mg/l | 96 h          | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Ethane-1,2-diol<br>107-21-1   | NOEC  | > 100 mg/l            | 72 h          | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |

## Toxicity to microorganisms

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

| Hazardous substances | Value | Value        | Exposure time | Species                       | Method                       |
|----------------------|-------|--------------|---------------|-------------------------------|------------------------------|
| CAS-No.              | type  |              |               |                               |                              |
| Dibenzoyl peroxide   | EC 50 | 35 mg/l      | 30 min        | activated sludge of a         | OECD Guideline 209           |
| 94-36-0              |       |              |               | predominantly domestic sewage | (Activated Sludge,           |
|                      |       |              |               |                               | Respiration Inhibition Test) |
| Ethane-1,2-diol      | EC20  | > 1.995 mg/l | 30 min        | activated sludge, domestic    | ISO 8192 (Test for           |
| 107-21-1             |       | -            |               | _                             | Inhibition of Oxygen         |
|                      |       |              |               |                               | Consumption by Activated     |
|                      |       |              |               |                               | Sludge)                      |

## 12.2. Persistence and degradability

| Hazardous substances<br>CAS-No. | Result                | Test type | Degradability | Exposure<br>time | Method   |
|---------------------------------|-----------------------|-----------|---------------|------------------|--|
| Dibenzoyl peroxide<br>94-36-0   | readily biodegradable | aerobic   | 71 %          | 28 d             | OECD Guideline 301 D (Ready<br>Biodegradability: Closed Bottle<br>Test)              |
| Ethane-1,2-diol<br>107-21-1     | readily biodegradable | aerobic   | > 90 - 100 %  | 10 d             | OECD Guideline 301 A (new<br>version) (Ready Biodegradability:<br>DOC Die Away Test) |

## 12.3. Bioaccumulative potential

| Hazardous substances | Bioconcentratio | Exposure time | Temperature | Species | Method                          |
|----------------------|-----------------|---------------|-------------|---------|---------------------------------|
| CAS-No.              | n factor (BCF)  |               |             |         |                                 |
| Dibenzoyl peroxide   | 66,6            |               |             | fish    | OECD Guideline 305              |
| 94-36-0              |                 |               |             |         | (Bioconcentration: Flow-through |
|                      |                 |               |             |         | Fish Test)                      |

#### 12.4. Mobility in soil

| Hazardous substances<br>CAS-No. | LogPow | Temperature | Method  |
|---------------------------------|--------|-------------|---|
| Dibenzoyl peroxide<br>94-36-0   | 3,2    | 22 °C       | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| Ethane-1,2-diol<br>107-21-1     | -1,36  |             | QSAR (Quantitative Structure Activity Relationship)                         |

## 12.5. Results of PBT and vPvB assessment

| Hazardous substances | PBT / vPvB   |
|----------------------|--|
| CAS-No.              |  |
| Dibenzoyl peroxide   | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very |
| 94-36-0              | Bioaccumulative (vPvB) criteria.   |
| Ethane-1,2-diol      | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very |
| 107-21-1             | Bioaccumulative (vPvB) criteria.   |

## 12.6. Endocrine disrupting properties

not applicable

#### 12.7. Other adverse effects

No data available.

UN number or ID number

# **SECTION 13: Disposal considerations**

## 13.1. Waste treatment methods

Product disposal:

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

Waste code

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.

080111

14.1.

# **SECTION 14: Transport information**

|       | ADR             | 3108  |
|-------|-----------------|---|
|       | RID             | 3108  |
|       | ADN             | 3108  |
|       | IMDG            | 3108  |
|       | IATA            | 3108  |
|       |                 |   |
| 14.2. | UN proper shij  | oping name  |
|       | ADR             | ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE) |
|       | RID             | ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE) |
|       | ADN             | ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE) |
|       | IMDG            | ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE) |
|       | IATA            | Organic peroxide type E, solid (Dibenzoyl peroxide) |
|       |                 |   |
| 14.3. | Transport haza  | ard class(es)                                       |
|       |                 |   |
|       | ADR             | 5.2   |
|       | RID             | 5.2   |
|       | ADN             | 5.2   |
|       | IMDG            | 5.2   |
|       | IATA            | 5.2 (HEAT)  |
| 14.4. | Packing group   |   |
|       | ADR             |   |
|       | RID             |   |
|       | ADN             |   |
|       | IMDG            |   |
|       | IATA            |   |
|       | 1/1/1           |   |
| 14.5. | Environmental   | hazards   |
|       | ADR             | Environmentally Hazardous                           |
|       | RID             | Environmentally Hazardous                           |
|       | ADN             | Environmentally Hazardous                           |
|       | IMDG            | Marine pollutant                                    |
|       | IATA            | not applicable                                      |
|       |                 | not approache                                       |
|       |                 |   |
| 14.6. | Special precaut | tions for user                                      |
| 14.6. | Special precaut | not applicable                                      |

|      | Tunnelcode: (D) |
|------|-----------------|
| RID  | not applicable  |
| ADN  | not applicable  |
| IMDG | not applicable  |
| IATA | not applicable  |

When shipping as a set (component A and B), the following dangerous goods classification 'UN 3269 Polyester Resin Multi-Component System' can be used.

# 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): Prior Informed Consent (PIC) (Regulation (EU) No 649/2012): Persistent organic pollutants (Regulation (EU) 2019/1021): VOC content 0 % (2010/75/EU) Not applicable Not applicable Not applicable

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:

H241 Heating may cause a fire or explosion.

- H302 Harmful if swallowed.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- 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.

| 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:

This Safety Data Sheet has been produced for sales from Henkel to parties purchasing from Henkel, is based on Regulation (EC) No 1907/2006 and provides information in accordance with applicable regulations of the European Union only. In that respect, no statement, warranty or representation of any kind is given as to compliance with any statutory laws or regulations of any other jurisdiction or territory other than the European Union. When exporting to territories other than the European Union, please consult with the respective Safety Data Sheet of the concerned territory to ensure compliance or liaise with Henkel's Product Safety and Regulatory Affairs Department (SDSinfo.Adhesive@henkel.com) prior to export to other territories than the European Union.

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

#### Dear Customer,

Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your\_company.com).

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



# Safety Data Sheet according to (EC) No 1907/2006 as amended Page 1 of 23

# TEROSON UP 620 CAN 241G EN

SDS No. : 592565 V004.0 Revision: 09.01.2023 printing date: 10.01.2023 Replaces version from: 09.01.2023

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

# 1.1. Product identifier

TEROSON UP 620 CAN 241G EN

# **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

SDSinfo.Adhesive@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 8701 906777 - For further general health & safety, technical and practical advice on this product, please call +44 (0) 1606 593933 or write to: Technical Services; Henkel Limited; Road 5; Winsford Industrial Estate; Winsford; Cheshire; CW7 3QY-Email: technical.services@henkel.co.uk

# **SECTION 2: Hazards identification**

#### 2.1. Classification of the substance or mixture

| Classification ( | (CLP): |
|------------------|--------|
|------------------|--------|

| Flammable liquids  | Category 3 |
|--|------------|
| H226 Flammable liquid and vapour.                                    |            |
| 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.                            |            |
| Toxic to reproduction  | Category 2 |
| H361d Suspected of damaging the unborn child.                        |            |
| Specific target organ toxicity - single exposure                     | Category 3 |
| H335 May cause respiratory irritation.                               |            |
| Target organ: respiratory tract irritation                           |            |
| Specific target organ toxicity - repeated exposure                   | Category 1 |
| H372 Causes damage to organs through prolonged or repeated exposure. |            |

#### 2.2. Label elements

Label elements (CLP):

| Hazard pictogram:                      |  |
|--|--|
| Contains                               | Styrene  |
|  | Vinyltoluene   |
|  | methyl methacrylate  |
|  | maleic anhydride   |
| Signal word:                           | Danger   |
| Hazard statement:                      | <ul> <li>H226 Flammable liquid and vapour.</li> <li>H315 Causes skin irritation.</li> <li>H317 May cause an allergic skin reaction.</li> <li>H319 Causes serious eye irritation.</li> <li>H335 May cause respiratory irritation.</li> <li>H361d Suspected of damaging the unborn child.</li> <li>H372 Causes damage to organs through prolonged or repeated exposure.</li> </ul> |
| Supplemental information               | Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.   |
| Precautionary statement:<br>Prevention | <ul><li>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.<br/>No smoking.</li><li>P260 Do not breathe dust/fume/spray.</li><li>P280 Wear protective gloves/protective clothing/eye protection/face protection.</li></ul>   |
| Precautionary statement:<br>Response   | P308+P313 IF exposed or concerned: Get medical advice/attention.<br>P370+P378 In case of fire: Use CO2, dry chemical, or foam for extinction.  |
| Precautionary statement:<br>Storage    | P403+P235 Store in a well-ventilated place. Keep cool.   |

#### 2.3. Other hazards

Solvents contained in the product evaporate during processing and their vapors can form explosive/highly inflammable air/vapor mixtures.

The solvent vapors are heavier than air and may collect in high concentrations at floor level.

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

| Hazardous components<br>CAS-No.<br>EC Number<br>REACH-Reg No.   | Concentration | Classification  | Specific Conc. Limits, M-<br>factors and ATEs                  | Add.<br>Information |
|---|---------------|---|--|---------------------|
| Titanium dioxide<br>13463-67-7<br>236-675-5<br>01-2119489379-17 | 10- < 25 %    | Carc. 2, Inhalation, H351   |  |                     |
| Styrene<br>100-42-5<br>202-851-5<br>01-2119457861-32            | 10- < 25 %    | Flam. Liq. 3, H226<br>Acute Tox. 4, Inhalation, H332<br>Asp. Tox. 1, H304<br>Eye Irrit. 2, H319<br>Skin Irrit. 2, H315<br>STOT RE 1, Inhalation, H372<br>Repr. 2, H361d<br>Aquatic Chronic 3, H412<br>STOT SE 3, H335 |  |                     |
| Vinyltoluene<br>25013-15-4<br>246-562-2<br>01-2119622074-50     | 10- < 25 %    | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H336<br>STOT SE 3, H335<br>Asp. Tox. 1, H304  | M acute = 1<br>=====<br>inhalation:ATE = 5,1<br>mg/l;dust/mist |                     |
| methyl methacrylate<br>80-62-6<br>201-297-1<br>01-2119452498-28 | 2,5- < 5%     | Flam. Liq. 2, H225<br>STOT SE 3, H335<br>Skin Irrit. 2, H315<br>Skin Sens. 1, H317  | STOT SE 3; H335; C >= 10 %                                     | EU OEL              |
| maleic anhydride<br>108-31-6<br>203-571-6<br>01-2119472428-31   | < 1%          | STOT RE 1, Inhalation, H372<br>Acute Tox. 4, Oral, H302<br>Skin Sens. 1A, H317<br>Resp. Sens. 1, H334<br>Eye Dam. 1, H318<br>Skin Corr. 1B, H314  | Skin Sens. 1A; H317; C >= 0,001<br>%                           |                     |
| 2-Butoxyethanol<br>111-76-2<br>203-905-0<br>01-2119475108-36    | < 1%          | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Acute Tox. 4, Oral, H302<br>Acute Tox. 3, Inhalation, H331   | oral:ATE = 1.200 mg/kg<br>inhalation:ATE = 3 mg/l;vapour       | EU OEL              |

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

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

General information: Symptoms of poisoning may occur even after several hours, continue medical observation for at least 48 hours after the accident.

Inhalation: Fresh air, oxygen supply, warmth; seek specialist medical attention.

Skin contact: IF ON SKIN: Wash with plenty of soap and water. In case of adverse health effects seek medical advice.

Eye contact:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion:

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor. After ingestion or vomit: danger of product entering the lung.

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

SKIN: Rash, Urticaria.

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

SKIN: Redness, inflammation.

EYE: Irritation, conjunctivitis.

ASPIRATION: Coughing, shortness of breath, nausea. Delayed effect: bronchopneumonia or pulmonary oedema

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

See section: Description of first aid measures Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema. Do not induce vomiting. Seek medical attention from a specialist.

## **SECTION 5: Firefighting measures**

**5.1. Extinguishing media Suitable extinguishing media:** Carbon dioxide, foam, powder

**Extinguishing media which must not be used for safety reasons:** Water jet (solvent-containing product).

5.2. Special hazards arising from the substance or mixture

In case of fire toxic gases can be released.

#### **5.3. Advice for firefighters** Wear self-contained breathing apparatus. Wear protective equipment.

#### **SECTION 6: Accidental release measures**

## 6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Avoid contact with skin and eyes. Keep unprotected persons away. Danger of slipping on spilled product.

#### **6.2.** Environmental precautions

Do not empty into drains / surface water / ground water. Inform authorities in the event of product spillage to water courses or sewage systems.

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

Remove with liquid-absorbing material (sand, peat, sawdust). Dispose of contaminated material as waste according to Section 13.

#### 6.4. Reference to other sections

See advice in section 8

# **SECTION 7: Handling and storage**

## Page 5 of 23

## 7.1. Precautions for safe handling

Avoid open flames and sources of ignition. Ground/bond container and receiving equipment. Use explosion proof electric equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Hygiene measures:

Wash hands before work breaks and after finishing work. Do not eat, drink or smoke while working. Take off contaminated clothing and wash before reuse.

## 7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction. Temperatures between + 5 °C and + 35 °C Store in a cool, dry place. Keep container tightly sealed.

**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 <sup>3</sup> | Value type                               | Short term exposure limit<br>category / Remarks | Regulatory list |
|--|-----|-------------------|--|---|-----------------|
| Titanium dioxide                             |     | 4                 | Time Weighted Average                    |   | EH40 WEL        |
| 13463-67-7                                   |     |                   | (TWA):                                   |   |                 |
| [TITANIUM DIOXIDE, RESPIRABLE]               |     | 10                |  |   |                 |
| Titanium dioxide<br>13463-67-7               |     | 10                | Time Weighted Average (TWA):             |   | EH40 WEL        |
| TITANIUM DIOXIDE, TOTAL                      |     |                   | (TWA):                                   |   |                 |
| INHALABLE]                                   |     |                   |  |   |                 |
| Styrene                                      | 100 | 430               | Time Weighted Average                    |   | EH40 WEL        |
| 100-42-5                                     |     |                   | (TWA):                                   |   |                 |
| [STYRENE]                                    |     |                   |  |   |                 |
| Styrene                                      | 250 | 1.080             | Short Term Exposure                      | 15 minutes                                      | EH40 WEL        |
| 100-42-5                                     |     |                   | Limit (STEL):                            |   |                 |
| [STYRENE]                                    |     |                   |  |   |                 |
| Silicon dioxide                              |     | 6                 | Time Weighted Average                    |   | EH40 WEL        |
| 112945-52-5<br>[SILICA, AMORPHOUS, INHALABLE |     |                   | (TWA):                                   |   |                 |
| DUST]  |     |                   |  |   |                 |
| Silicon dioxide                              |     | 2,4               | Time Weighted Average                    |   | EH40 WEL        |
| 112945-52-5                                  |     | _,.               | (TWA):                                   |   |                 |
| [SILICA, AMORPHOUS, RESPIRABLE               |     |                   |  |   |                 |
| DUST]  |     |                   |  |   |                 |
| Silicon dioxide                              |     | 4                 | Time Weighted Average                    |   | EH40 WEL        |
| 112945-52-5                                  |     |                   | (TWA):                                   |   |                 |
| [Dust, respirable dust]<br>Silicon dioxide   |     | 10                | Time W/-i-ht-d Assesses                  |   |                 |
| 112945-52-5                                  |     | 10                | Time Weighted Average (TWA):             |   | EH40 WEL        |
| [Dust, inhalable dust]                       |     |                   | (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 ( |   |                 |
| Methyl methacrylate                          | 50  | 208               | Time Weighted Average                    |   | EH40 WEL        |
| 80-62-6                                      | 20  | 200               | (TWA):                                   |   |                 |
| [METHYL METHACRYLATE]                        |     |                   |  |   |                 |
| Methyl methacrylate                          | 100 |                   | Short Term Exposure                      | Indicative                                      | ECTLV           |
| 80-62-6                                      |     |                   | Limit (STEL):                            |   |                 |
| [METHYL METHACRYLATE]                        |     |                   |  |   |                 |
| Methyl methacrylate<br>80-62-6               | 50  |                   | Time Weighted Average (TWA):             | Indicative                                      | ECTLV           |
| [METHYL METHACRYLATE]                        |     |                   | (TWA):                                   |   |                 |
| Methyl methacrylate                          | 100 | 416               | Short Term Exposure                      | 15 minutes                                      | EH40 WEL        |
| 80-62-6                                      | 100 |                   | Limit (STEL):                            | 10 111111105                                    |                 |
| [METHYL METHACRYLATE]                        |     |                   |  |   |                 |
| 2-Butoxyethanol                              | 25  | 123               | Time Weighted Average                    |   | EH40 WEL        |
| 111-76-2                                     |     |                   | (TWA):                                   |   |                 |
| [2-BUTOXYETHANOL]                            |     |                   |  |   |                 |
| 2-Butoxyethanol                              |     |                   | Skin designation:                        | Can be absorbed through the                     | EH40 WEL        |
| 111-76-2<br>12 RUTOXVETHANOL 1               |     |                   |  | skin.   |                 |
| [2-BUTOXYETHANOL]<br>2-Butoxyethanol         | 20  | 98                | Time Weighted Average                    | Indicative                                      | ECTLV           |
| 111-76-2                                     | 20  | 20                | (TWA):                                   | maleative                                       | Leib,           |
| [2-BUTOXYETHANOL]                            |     |                   | (-···-/·                                 |   |                 |
| 2-Butoxyethanol                              | 50  | 246               | Short Term Exposure                      | Indicative                                      | ECTLV           |
| 111-76-2                                     |     |                   | Limit (STEL):                            |   |                 |
| [2-BUTOXYETHANOL]                            |     |                   |  |   |                 |
| 2-Butoxyethanol                              | 50  | 246               | Short Term Exposure                      | 15 minutes                                      | EH40 WEL        |
| 111-76-2<br>[2-BUTOXYETHANOL]                |     |                   | Limit (STEL):                            |   |                 |
|  |     | 1                 | Time Weighted Average                    |   | EH40 WEL        |
| Maleic anhydride<br>108-31-6                 |     | 1                 | Time Weighted Average (TWA):             |   | LI140 WEL       |
| [MALEIC ANHYDRIDE]                           |     |                   | (1 11 11).                               |   |                 |
| Maleic anhydride                             |     | 3                 | Short Term Exposure                      | 15 minutes                                      | EH40 WEL        |
| 108-31-6                                     |     |                   | Limit (STEL):                            |   |                 |
| [MALEIC ANHYDRIDE]                           |     |                   |  |   |                 |

# **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 |
|--|------|-------------------|--------------------------------------|--|-----------------|
| Titanium dioxide<br>13463-67-7                             |      | 10                | Time Weighted Average (TWA):         |  | IR_OEL          |
| [TITANIUM DIOXIDE]   |      |                   |                                      |  |                 |
| Titanium dioxide<br>13463-67-7<br>[TITANIUM DIOXIDE]       |      | 4                 | Time Weighted Average (TWA):         |  | IR_OEL          |
| Styrene  | 20   | 85                | Time Weighted Average                |  | IR_OEL          |
| 100-42-5<br>[STYRENE]                                      | 20   | 00                | (TWA):                               |  | III_OLL         |
| Styrene<br>100-42-5  | 40   | 170               | Short Term Exposure<br>Limit (STEL): | 15 minutes                                   | IR_OEL          |
| [STYRENE]  |      | 0.40              |                                      |  | ID OF           |
| Vinyltoluene<br>25013-15-4<br>[METHYLSTYRENE, ALL ISOMERS] | 50   | 242               | Time Weighted Average (TWA):         |  | IR_OEL          |
| Vinyltoluene   | 10   | 483               | Short Term Exposure                  | 15 minutes                                   | IR_OEL          |
| 25013-15-4   | 10   | -05               | Limit (STEL):                        | 15 minutes                                   | IK_OLL          |
| [METHYLSTYRENE, ALL ISOMERS]                               |      | -                 |                                      |  | ID OF           |
| Silicon dioxide<br>112945-52-5                             |      | 6                 | Time Weighted Average (TWA):         |  | IR_OEL          |
| [SILICA, AMORPHOUS]  |      |                   |                                      |  |                 |
| Silicon dioxide<br>112945-52-5                             |      | 2,4               | Time Weighted Average (TWA):         |  | IR_OEL          |
| [SILICA, AMORPHOUS]  |      |                   | (1,1,1).                             |  |                 |
| Silicon dioxide<br>112945-52-5                             |      | 10                | Time Weighted Average (TWA):         |  | IR_OEL          |
| [DUSTS NON-SPECIFIC]                                       |      |                   | (1 WA).                              |  |                 |
| Silicon dioxide  |      | 4                 | Time Weighted Average                |  | IR_OEL          |
| 112945-52-5<br>[DUSTS NON-SPECIFIC]                        |      |                   | (TWA):                               |  |                 |
| Methyl methacrylate  | 50   |                   | Time Weighted Average                | Indicative OELV                              | IR_OEL          |
| 80-62-6<br>[METHYL METHACRYLATE]                           |      |                   | (TWA):                               |  |                 |
| Methyl methacrylate  | 100  |                   | Short Term Exposure                  | Indicative                                   | ECTLV           |
| 80-62-6  |      |                   | Limit (STEL):                        |  |                 |
| [METHYL METHACRYLATE]<br>Methyl methacrylate               | 50   |                   | Time Weighted Average                | Indicative                                   | ECTLV           |
| 80-62-6  |      |                   | (TWA):                               |  | 2012            |
| [METHYL METHACRYLATE]<br>Methyl methacrylate               | 100  |                   | Short Term Exposure                  | 15 minutes                                   | IR OEL          |
| 80-62-6  | 100  |                   | Limit (STEL):                        | Indicative OELV                              | IK_OLL          |
| [METHYL METHACRYLATE]                                      |      |                   |                                      |  |                 |
| 2-Butoxyethanol<br>111-76-2                                | 50   | 246               | Short Term Exposure<br>Limit (STEL): | 15 minutes<br>Indicative OELV                | IR_OEL          |
| [2-BUTOXYETHANOL (EGBE)]                                   |      |                   | Emit (STEE).                         | Indicative OLL V                             |                 |
| 2-Butoxyethanol  | 20   | 98                | Time Weighted Average                | Indicative OELV                              | IR_OEL          |
| 111-76-2<br>[2-BUTOXYETHANOL (EGBE)]                       |      |                   | (TWA):                               |  |                 |
| 2-Butoxyethanol  | 1    |                   | Skin designation:                    | Can be absorbed through the                  | IR_OEL          |
| 111-76-2<br>[2-BUTOXYETHANOL (EGBE)]                       |      |                   |                                      | skin.  |                 |
| 2-Butoxyethanol  | 20   | 98                | Time Weighted Average                | Indicative                                   | ECTLV           |
| 111-76-2<br>[2-BUTOXYETHANOL]                              |      |                   | (TWA):                               |  |                 |
| 2-Butoxyethanol  | 50   | 246               | Short Term Exposure                  | Indicative                                   | ECTLV           |
| 111-76-2   |      |                   | Limit (STEL):                        |  |                 |
| [2-BUTOXYETHANOL]<br>Maleic anhydride                      | 0.01 |                   | Time Weighted Aver                   |  | IR OFI          |
| 108-31-6   | 0,01 |                   | Time Weighted Average (TWA):         |  | IR_OEL          |
| [MALEIC ANHYDRIDE]   |      |                   |                                      |  |                 |

# Predicted No-Effect Concentration (PNEC):

| Name on list                   | Environmental                |        | Value      |          |                 |        | Remarks              |
|--------------------------------|------------------------------|--------|------------|----------|-----------------|--------|----------------------|
|                                | Compartment                  | period | mg/l       | ppm      | mg/kg           | others |                      |
| Styrene                        | aqua                         |        | 0,028 mg/l | ppm      | ilig/kg         | others |                      |
| 100-42-5                       | (freshwater)                 |        | 0,020 mg 1 |          |                 |        |                      |
| Styrene                        | aqua (marine                 |        | 0,014 mg/l |          |                 |        |                      |
| 100-42-5                       | water)                       |        |            |          |                 |        |                      |
| Styrene                        | aqua                         |        | 0,04 mg/l  |          |                 |        |                      |
| 100-42-5                       | (intermittent                |        |            |          |                 |        |                      |
| Styrene                        | releases)<br>sewage          |        | 5 mg/l     |          |                 |        |                      |
| 100-42-5                       | treatment plant              |        | 5 mg/1     |          |                 |        |                      |
| 100 120                        | (STP)                        |        |            |          |                 |        |                      |
| Styrene                        | sediment                     |        |            |          | 0,614           |        |                      |
| 100-42-5                       | (freshwater)                 |        |            |          | mg/kg           |        |                      |
| Styrene                        | sediment                     |        |            |          | 0,307           |        |                      |
| 100-42-5                       | (marine water)               |        |            |          | mg/kg           |        |                      |
| Styrene<br>100-42-5            | Soil                         |        |            |          | 0,2 mg/kg       |        |                      |
| Styrene                        | Air                          |        |            |          |                 |        | no hazard identified |
| 100-42-5                       | 7 111                        |        |            |          |                 |        | no nazaru identified |
| Styrene                        | Predator                     |        | 1          | t        |                 |        | no potential for     |
| 100-42-5                       |                              |        |            |          |                 |        | bioaccumulation      |
| Vinyltoluene                   | aqua                         |        | 0,000319   |          |                 |        |                      |
| 25013-15-4                     | (freshwater)                 |        | mg/l       | ļ        |                 |        |                      |
| Vinyltoluene                   | Freshwater -                 |        | 0,00319    |          |                 |        |                      |
| 25013-15-4<br>Vinyltoluene     | intermittent<br>aqua (marine |        | mg/l       |          |                 |        |                      |
| 25013-15-4                     | aqua (marine<br>water)       |        | 0 mg/l     |          |                 |        |                      |
| Vinyltoluene                   | Marine water -               |        | 0,000319   |          |                 |        |                      |
| 25013-15-4                     | intermittent                 |        | mg/l       |          |                 |        |                      |
| Vinyltoluene                   | sewage                       |        | 5,92 mg/l  |          |                 |        |                      |
| 25013-15-4                     | treatment plant              |        | _          |          |                 |        |                      |
|                                | (STP)                        |        |            |          |                 |        |                      |
| Vinyltoluene                   | sediment                     |        |            |          | 0,032           |        |                      |
| 25013-15-4<br>Vinyltoluene     | (freshwater)<br>sediment     |        |            |          | mg/kg<br>0,0032 |        |                      |
| 25013-15-4                     | (marine water)               |        |            |          | mg/kg           |        |                      |
| Vinyltoluene                   | Soil                         |        |            |          | 0,00621         |        |                      |
| 25013-15-4                     |                              |        |            |          | mg/kg           |        |                      |
| Vinyltoluene                   | Predator                     |        |            |          |                 |        | no potential for     |
| 25013-15-4                     |                              |        |            |          |                 |        | bioaccumulation      |
| methyl methacrylate            | aqua                         |        | 0,94 mg/l  |          |                 |        |                      |
| 80-62-6<br>methyl methacrylate | (freshwater)                 |        | 0.04 /1    |          |                 |        |                      |
| 80-62-6                        | aqua (marine<br>water)       |        | 0,94 mg/l  |          |                 |        |                      |
| methyl methacrylate            | aqua                         |        | 0,94 mg/l  |          |                 |        |                      |
| 80-62-6                        | (intermittent                |        | 0,9 T mg/T |          |                 |        |                      |
|                                | releases)                    |        |            |          |                 |        |                      |
| methyl methacrylate            | sewage                       |        | 10 mg/l    |          |                 |        |                      |
| 80-62-6                        | treatment plant              |        |            |          |                 |        |                      |
| methyl methacrylate            | (STP)<br>sediment            |        |            |          | 5,74 mg/kg      |        |                      |
| 80-62-6                        | (freshwater)                 |        |            |          | 5,74 mg/kg      |        |                      |
| methyl methacrylate            | Soil                         |        |            |          | 1,47 mg/kg      |        |                      |
| 80-62-6                        |                              |        |            |          | ,               |        |                      |
| maleic anhydride               | aqua                         |        | 0,038 mg/l |          |                 |        |                      |
| 108-31-6                       | (freshwater)                 |        |            |          |                 |        |                      |
| maleic anhydride               | aqua (marine                 |        | 0,004 mg/l |          |                 |        |                      |
| 108-31-6<br>maleic anhydride   | water)<br>Soil               |        |            |          | 0,037           |        |                      |
| 108-31-6                       | 5011                         |        |            |          | 0,037<br>mg/kg  |        |                      |
| maleic anhydride               | sediment                     |        | 1          | 1        | 0,296           |        |                      |
| 108-31-6                       | (freshwater)                 |        |            |          | mg/kg           |        |                      |
| maleic anhydride               | sediment                     |        |            |          | 0,03 mg/kg      |        |                      |
| 108-31-6                       | (marine water)               |        |            |          |                 |        |                      |
| maleic anhydride               | sewage                       |        | 44,6 mg/l  |          |                 |        |                      |
| 108-31-6                       | treatment plant              |        |            |          |                 |        |                      |
| maleic anhydride               | (STP)<br>Freshwater -        |        | 0,379 mg/l | <u> </u> |                 |        |                      |
| 108-31-6                       | intermittent                 |        | 0,579 mg/1 |          |                 |        |                      |
|                                | merimuent                    | 1      | 1          | 1        |                 | 1      |                      |

| maleic anhydride | Marine water -  | 0,038 mg/l |            |  |
|------------------|-----------------|------------|------------|--|
| 108-31-6         | intermittent    | _          |            |  |
| 2-butoxyethanol  | aqua            | 8,8 mg/l   |            |  |
| 111-76-2         | (freshwater)    |            |            |  |
| 2-butoxyethanol  | aqua (marine    | 0,88 mg/l  |            |  |
| 111-76-2         | water)          |            |            |  |
| 2-butoxyethanol  | sewage          | 463 mg/l   |            |  |
| 111-76-2         | treatment plant |            |            |  |
|                  | (STP)           |            |            |  |
| 2-butoxyethanol  | sediment        |            | 34,6 mg/kg |  |
| 111-76-2         | (freshwater)    |            |            |  |
| 2-butoxyethanol  | sediment        |            | 3,46 mg/kg |  |
| 111-76-2         | (marine water)  |            |            |  |
| 2-butoxyethanol  | Soil            |            | 2,33 mg/kg |  |
| 111-76-2         |                 |            |            |  |
| 2-butoxyethanol  | oral            |            | 20 mg/kg   |  |
| 111-76-2         |                 |            |            |  |
| 2-butoxyethanol  | Freshwater -    | 26,4 mg/l  |            |  |
| 111-76-2         | intermittent    |            |            |  |

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

| Name on list                   | Application<br>Area | Route of<br>Exposure | Health Effect                  | Exposure<br>Time | Value         | Remarks              |
|--------------------------------|---------------------|----------------------|--------------------------------|------------------|---------------|----------------------|
| Titanium dioxide               | Workers             | inhalation           | Long term                      |                  | 0,17 mg/m3    |                      |
| 13463-67-7                     |                     |                      | exposure - local<br>effects    |                  |               |                      |
| Titanium dioxide               | General             | inhalation           | Long term                      |                  | 0,028 mg/m3   |                      |
| 13463-67-7                     | population          |                      | exposure - local<br>effects    |                  |               |                      |
| Styrene                        | Workers             | Inhalation           | Acute/short term               |                  | 289 mg/m3     | no hazard identified |
| 100-42-5                       |                     |                      | exposure -<br>systemic effects |                  |               |                      |
| Styrene                        | Workers             | Inhalation           | Acute/short term               |                  | 306 mg/m3     | no hazard identified |
| 100-42-5                       |                     |                      | exposure - local<br>effects    |                  |               |                      |
| Styrene                        | Workers             | dermal               | Long term                      |                  | 406 mg/kg     | no hazard identified |
| 100-42-5                       |                     |                      | exposure -<br>systemic effects |                  |               |                      |
| Styrene                        | Workers             | Inhalation           | Long term                      |                  | 85 mg/m3      | no hazard identified |
| 100-42-5                       |                     |                      | exposure -<br>systemic effects |                  |               |                      |
| Styrene                        | General             | Inhalation           | Acute/short term               |                  | 174,25 mg/m3  | no hazard identified |
| 100-42-5                       | population          |                      | exposure -<br>systemic effects |                  |               |                      |
| Styrene                        | General             | Inhalation           | Acute/short term               |                  | 182,75 mg/m3  | no hazard identified |
| 100-42-5                       | population          |                      | exposure - local<br>effects    |                  |               |                      |
| Styrene                        | General             | dermal               | Long term                      |                  | 343 mg/kg     | no hazard identified |
| 100-42-5                       | population          |                      | exposure -<br>systemic effects |                  |               |                      |
| Styrene                        | General             | Inhalation           | Long term                      |                  | 10,2 mg/m3    | no hazard identified |
| 100-42-5                       | population          |                      | exposure -<br>systemic effects |                  |               |                      |
| Styrene                        | General             | oral                 | Long term                      |                  | 2,1 mg/kg     | no hazard identified |
| 100-42-5                       | population          |                      | exposure -<br>systemic effects |                  |               |                      |
| Vinyltoluene                   | Workers             | inhalation           | Long term                      |                  | 37 mg/m3      | no potential for     |
| 25013-15-4                     |                     |                      | exposure -<br>systemic effects |                  | -             | bioaccumulation      |
| Vinyltoluene                   | Workers             | inhalation           | Acute/short term               |                  | 37 mg/m3      | no potential for     |
| 25013-15-4                     |                     |                      | exposure -<br>systemic effects |                  | U U           | bioaccumulation      |
| methyl methacrylate            | Workers             | dermal               | Acute/short term               |                  | 1,5 mg/cm2    |                      |
| 80-62-6                        |                     |                      | exposure - local<br>effects    |                  |               |                      |
| methyl methacrylate            | Workers             | dermal               | Long term                      |                  | 13,67 mg/kg   |                      |
| 80-62-6                        |                     |                      | exposure -<br>systemic effects |                  |               |                      |
| methyl methacrylate            | Workers             | Inhalation           | Long term                      |                  | 208 mg/m3     |                      |
| 80-62-6                        |                     |                      | exposure -<br>systemic effects |                  | -             |                      |
| methyl methacrylate            | Workers             | dermal               | Long term                      |                  | 1,5 mg/cm2    |                      |
| 80-62-6                        |                     |                      | exposure - local<br>effects    |                  |               |                      |
| methyl methacrylate            | Workers             | Inhalation           | Long term                      |                  | 208 mg/m3     |                      |
| 80-62-6                        | () officies         |                      | exposure - local               |                  | 200 mg mo     |                      |
| methyl methacrylate            | General             | dermal               | effects<br>Acute/short term    | +                | 1,5 mg/cm2    |                      |
| 80-62-6                        | population          | Jerman               | exposure - local               |                  | 1,5 mg/0m2    |                      |
| mathul matheomilate            | General             | dorma1               | effects                        | }                | 8.2 mg/l-2    |                      |
| methyl methacrylate<br>80-62-6 | population          | dermal               | Long term<br>exposure -        |                  | 8,2 mg/kg     |                      |
| mothril moth comilate          | Cananal             | Inhol-t'             | systemic effects               |                  | $71.2 ma/m^2$ |                      |
| methyl methacrylate<br>80-62-6 | General population  | Inhalation           | Long term<br>exposure -        |                  | 74,3 mg/m3    |                      |
| mothril moth comilate          | Comorol             | dama -1              | systemic effects               | <u> </u>         | 1.5 mg/on-2   |                      |
| methyl methacrylate<br>80-62-6 | General population  | dermal               | Long term<br>exposure - local  |                  | 1,5 mg/cm2    |                      |
| weathed weather and the        | Comonal             | Indust. (*           | effects                        |                  | 104           |                      |
| methyl methacrylate<br>80-62-6 | General population  | Inhalation           | Long term<br>exposure - local  |                  | 104 mg/m3     |                      |
|                                |                     |                      | effects                        | l                |               |                      |

| maleic anhydride<br>108-31-6 | Workers            | inhalation | Acute/short term<br>exposure -<br>systemic effects | 0,2 mg/m3   |  |
|------------------------------|--------------------|------------|--|-------------|--|
| maleic anhydride<br>108-31-6 | Workers            | inhalation | Acute/short term<br>exposure - local<br>effects    | 0,2 mg/m3   |  |
| maleic anhydride<br>108-31-6 | Workers            | inhalation | Long term<br>exposure -<br>systemic effects        | 0,081 mg/m3 |  |
| maleic anhydride<br>108-31-6 | Workers            | inhalation | Long term<br>exposure - local<br>effects           | 0,081 mg/m3 |  |
| 2-butoxyethanol<br>111-76-2  | Workers            | inhalation | Long term<br>exposure -<br>systemic effects        | 98 mg/m3    |  |
| 2-butoxyethanol<br>111-76-2  | Workers            | inhalation | Acute/short term<br>exposure - local<br>effects    | 246 mg/m3   |  |
| 2-butoxyethanol<br>111-76-2  | Workers            | inhalation | Acute/short term<br>exposure -<br>systemic effects | 1091 mg/m3  |  |
| 2-butoxyethanol<br>111-76-2  | General population | inhalation | Long term<br>exposure -<br>systemic effects        | 59 mg/m3    |  |
| 2-butoxyethanol<br>111-76-2  | General population | inhalation | Acute/short term<br>exposure -<br>systemic effects | 426 mg/m3   |  |
| 2-butoxyethanol<br>111-76-2  | General population | inhalation | Acute/short term<br>exposure - local<br>effects    | 147 mg/m3   |  |
| 2-butoxyethanol<br>111-76-2  | General population | oral       | Long term<br>exposure -<br>systemic effects        | 6,3 mg/kg   |  |
| 2-butoxyethanol<br>111-76-2  | General population | oral       | Acute/short term<br>exposure -<br>systemic effects | 26,7 mg/kg  |  |

### **Biological Exposure Indices:**

| Ingredient [Regulated substance] | Parameters   | Biological<br>specimen | Sampling time         | <br>Basis of biol.<br>exposure index | <br>Additional<br>Information |
|----------------------------------|--------------|------------------------|-----------------------|--------------------------------------|-------------------------------|
| 2-Butoxyethanol                  | Butoxyacetic | Creatinine in          | Sampling time: End of | UKEH40BMG                            |                               |
| 111-76-2                         | acid         | urine                  | shift.                | V                                    |                               |
| [2-BUTOXYETHANOL]                |              |                        |                       |                                      |                               |

#### 8.2. Exposure controls:

Engineering controls:

Use only in well ventilated areas.

Respiratory protection:

The product should only be used at workplaces with intensive ventilation/extraction.

If intensive ventilation/extraction is not possible respiratory protection equipment with ABEK P2 filter (EN 14387) should be worn.

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; >= 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: Goggles which can be tightly sealed. Protective eye equipment should conform to EN166.

Skin protection: Wear protective equipment. Protective clothing that covers arms and legs. Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway), or equivalent.

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 formpasteColourwhiteOdorcharacteristicMelting pointNot applicable, Product is a liquidInitial boiling point $116 ^{\circ}C (240.8 ^{\circ}F)$ FlammabilityCurrently under determinationExplosive limitsCurrently under determinationFlash point $41 ^{\circ}C (105.8 ^{\circ}F)$ Auto-ignition temperature $238 ^{\circ}C (460.4 ^{\circ}F)$ Decomposition temperatureNot applicablepHNot applicable, Product is non-soluble (in water).Viscosity (kinematic)> 20,5 mm2/s(40 $^{\circ}C (104 ^{\circ}F);$ )Currently under determination |
|---|
| OdorcharacteristicMelting pointNot applicable, Product is a liquidInitial boiling point $116 ^{\circ}C (240.8 ^{\circ}F)$ FlammabilityCurrently under determinationExplosive limitsCurrently under determinationFlash point $41 ^{\circ}C (105.8 ^{\circ}F)$ Auto-ignition temperature $238 ^{\circ}C (460.4 ^{\circ}F)$ Decomposition temperatureNot applicablepHNot applicable, Product is non-soluble (in water).Viscosity (kinematic)> 20,5 mm2/s(40 $^{\circ}C (104 ^{\circ}F); )$   |
| Melting pointNot applicable, Product is a liquidInitial boiling point $116 ^{\circ}C (240.8 ^{\circ}F)$ FlammabilityCurrently under determinationExplosive limitsCurrently under determinationFlash point $41 ^{\circ}C (105.8 ^{\circ}F)$ Auto-ignition temperature $238 ^{\circ}C (460.4 ^{\circ}F)$ Decomposition temperatureNot applicablepHNot applicable, Product is non-soluble (in water).Viscosity (kinematic)> 20,5 mm2/s(40 $^{\circ}C (104 ^{\circ}F); )$   |
| Initial boiling point $116 \ ^{\circ}C (240.8 \ ^{\circ}F)$ FlammabilityCurrently under determinationExplosive limitsCurrently under determinationFlash point $41 \ ^{\circ}C (105.8 \ ^{\circ}F)$ Auto-ignition temperature $238 \ ^{\circ}C (460.4 \ ^{\circ}F)$ Decomposition temperatureNot applicablepHNot applicable, Product is non-soluble (in water).Viscosity (kinematic) $> 20,5 \ \text{mm2/s}$   |
| FlammabilityCurrently under determinationExplosive limitsCurrently under determinationFlash point41 °C (105.8 °F)Auto-ignition temperature238 °C (460.4 °F)Decomposition temperatureNot applicablepHNot applicable, Product is non-soluble (in water).Viscosity (kinematic)> 20,5 mm2/s(40 °C (104 °F); )   |
| Explosive limitsCurrently under determinationFlash point $41 ^{\circ}C (105.8 ^{\circ}F)$ Auto-ignition temperature $238 ^{\circ}C (460.4 ^{\circ}F)$ Decomposition temperatureNot applicablepHNot applicable, Product is non-soluble (in water).Viscosity (kinematic)> 20,5 mm2/s(40 $^{\circ}C (104 ^{\circ}F);$ )  |
| Flash point41 °C (105.8 °F)Auto-ignition temperature238 °C (460.4 °F)Decomposition temperatureNot applicablepHNot applicable, Product is non-soluble (in water).Viscosity (kinematic)> 20,5 mm2/s(40 °C (104 °F); )>  |
| Auto-ignition temperature238 °C (460.4 °F)Decomposition temperatureNot applicablepHNot applicable, Product is non-soluble (in water).Viscosity (kinematic)> 20,5 mm2/s  |
| Decomposition temperatureNot applicablepHNot applicable, Product is non-soluble (in water).Viscosity (kinematic)> 20,5 mm2/s(40 °C (104 °F); )>   |
| pHNot applicable, Product is non-soluble (in water).Viscosity (kinematic)<br>(40 °C (104 °F); )> 20,5 mm2/s   |
| Viscosity (kinematic) > 20,5 mm2/s<br>(40 °C (104 °F); )  |
| (40 °C (104 °F); )  |
|   |
| Solubility (qualitative) Currently under determination  |
| Solutinity (quantative)   |
| Partition coefficient: n-octanol/water Not applicable   |
| Mixture   |
| Vapour pressure 886 Pa  |
| (20 °C (68 °F))   |
| Vapour pressure 4409 Pa   |
| (50 °C (122 °F))  |
| Vapour pressure 2183 Pa   |
| (20 °C (68 °F))   |
| Vapour pressure 11,46 kPa   |
| (50 °C (122 °F))  |
| Density 1,35 g/cm3 no method  |
| (20 °C (68 °F))   |
| Relative vapour density: Currently under determination  |
| Particle characteristics Not applicable   |
| Product is a liquid   |

# **9.2. Other information** Other information not applicable for this product

**SECTION 10: Stability and reactivity** 

**10.1. Reactivity** Oxidizers.

#### 10.2. Chemical stability

Stable under recommended storage conditions.

## 10.3. Possibility of hazardous reactions

See section reactivity

#### 10.4. Conditions to avoid

Heat, flames, sparks and other sources of ignition.

#### **10.5. Incompatible materials**

See section reactivity.

## **10.6. Hazardous decomposition products**

No decomposition if used according to specifications.

# **SECTION 11: Toxicological information**

#### General toxicological information:

Persons suffering from allergic reactions to acrylates should avoid contact with the product.

## 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           | Value                                  | Value                  | Species | Method  |
|--------------------------------|--|------------------------|---------|---|
| CAS-No.                        | type                                   |                        | _       |   |
| Titanium dioxide<br>13463-67-7 | LD50                                   | > 5.000 mg/kg          | rat     | OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure) |
| Styrene<br>100-42-5            | LD50                                   | 6.600 - 8.000<br>mg/kg | rat     | not specified   |
| Vinyltoluene<br>25013-15-4     | LD50                                   | 2.255 mg/kg            | rat     | not specified   |
| methyl methacrylate<br>80-62-6 | LD50                                   | 9.400 mg/kg            | rat     | not specified   |
| maleic anhydride<br>108-31-6   | LD50                                   | 1.090 mg/kg            | rat     | OECD Guideline 401 (Acute Oral Toxicity)                        |
| 2-Butoxyethanol<br>111-76-2    | Acute<br>toxicity<br>estimate<br>(ATE) | 1.200 mg/kg            |         | Expert judgement  |

## Acute dermal toxicity:

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

| Hazardous substances           | Value | Value          | Species    | Method  |
|--------------------------------|-------|----------------|------------|---|
| CAS-No.                        | type  |                |            |   |
| Titanium dioxide<br>13463-67-7 | LD50  | > 10.000 mg/kg | rabbit     | not specified   |
| Styrene<br>100-42-5            | LD50  | > 2.000 mg/kg  | rat        | OECD Guideline 402 (Acute Dermal Toxicity)                          |
| methyl methacrylate<br>80-62-6 | LD50  | > 5.000 mg/kg  | rabbit     | equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity) |
| maleic anhydride<br>108-31-6   | LD50  | 2.620 mg/kg    | rabbit     | not specified   |
| 2-Butoxyethanol<br>111-76-2    | LD50  | > 2.000 mg/kg  | guinea pig | OECD Guideline 402 (Acute Dermal Toxicity)                          |

# Acute inhalative toxicity:

| Hazardous substances           | Value                                  | Value       | Test atmosphere | -    | Species | Method  |
|--------------------------------|--|-------------|-----------------|------|---------|---|
| CAS-No.                        | type                                   |             |                 | time |         |   |
| Titanium dioxide<br>13463-67-7 | LC50                                   | > 6,82 mg/l | dust            | 4 h  | rat     | not specified                                     |
| Styrene<br>100-42-5            | LC50                                   | 11,8 mg/l   | vapour          | 4 h  | rat     | not specified                                     |
| Vinyltoluene<br>25013-15-4     | LC50                                   | > 5,02 mg/l | dust/mist       | 4 h  | rat     | OECD Guideline 403 (Acute<br>Inhalation Toxicity) |
| Vinyltoluene<br>25013-15-4     | LC50                                   | > 16,9 mg/l | vapour          | 4 h  | rat     | not specified                                     |
| Vinyltoluene<br>25013-15-4     | Acute<br>toxicity<br>estimate<br>(ATE) | 5,1 mg/l    | dust/mist       |      |         | Expert judgement                                  |
| methyl methacrylate<br>80-62-6 | LC50                                   | 29,8 mg/l   | vapour          | 4 h  | rat     | not specified                                     |
| 2-Butoxyethanol<br>111-76-2    | Acute<br>toxicity<br>estimate<br>(ATE) | 3 mg/l      | vapour          | 4 h  |         | Expert judgement                                  |

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

## 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  |
|---------------------------------|----------------------|------------------|---|---|
| Titanium dioxide<br>13463-67-7  | not irritating       | 4 h              | rabbit                                    | OECD Guideline 404 (Acute Dermal Irritation / Corrosion)      |
| Vinyltoluene                    | irritating or        |                  | Human,                                    | OECD Guideline 439 (In Vitro Skin Irritation:                 |
| 25013-15-4                      | corrosive            |                  | EpiDermTM SIT<br>(EPI-200),               | Reconstructed Human Epidermis (RHE) Test Method)              |
|                                 |                      |                  | Reconstructed                             |   |
|                                 |                      |                  | Human<br>Epidermis (RHE)                  |   |
| Vinyltoluene                    | not corrosive        |                  | Human,                                    | OECD Guideline 431 (In Vitro Skin Corrosion:                  |
| 25013-15-4                      |                      |                  | EpiDermTM SIT<br>(EPI-200),               | Reconstructed Human Epidermis (RHE) Test Method)              |
|                                 |                      |                  | Reconstructed<br>Human<br>Epidermis (RHE) |   |
| Vinyltoluene<br>25013-15-4      | mildly<br>irritating | 24 h             | rabbit                                    | other guideline:  |
| Vinyltoluene<br>25013-15-4      | irritating           | 24 h             | rabbit                                    | not specified   |
| maleic anhydride<br>108-31-6    | highly<br>irritating |                  | rabbit                                    | OECD Guideline 404 (Acute Dermal Irritation / Corrosion)      |
| 2-Butoxyethanol<br>111-76-2     | irritating           | 4 h              | rabbit                                    | EU Method B.4 (Acute Toxicity: 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  |
|---------------------------------|------------------------------|------------------|----------------------------------|---|
| Titanium dioxide<br>13463-67-7  | not irritating               |                  | rabbit                           | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Vinyltoluene<br>25013-15-4      | no prediction<br>can be made |                  | Bovine, cornea,<br>in vitro test | OECD Guideline 437 (BCOP)                             |
| Vinyltoluene<br>25013-15-4      | slightly<br>irritating       |                  | rabbit                           | not specified   |
| maleic anhydride<br>108-31-6    | corrosive                    |                  | rabbit                           | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| 2-Butoxyethanol<br>111-76-2     | irritating                   | 24 h             | 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<br>CAS-No. | Result          | Test type                             | Species    | Method   |
|---------------------------------|-----------------|---------------------------------------|------------|--|
| Titanium dioxide<br>13463-67-7  | not sensitising | Mouse local lymphnode<br>assay (LLNA) | mouse      | equivalent or similar to OECD Guideline<br>429 (Skin Sensitisation: Local Lymph<br>Node Assay) |
| Titanium dioxide<br>13463-67-7  | not sensitising | Buehler test                          | guinea pig | OECD Guideline 406 (Skin Sensitisation)  |
| Styrene<br>100-42-5             | not sensitising | Guinea pig maximisation<br>test       | guinea pig | Magnusson and Kligman Method   |
| methyl methacrylate<br>80-62-6  | sensitising     | Mouse local lymphnode<br>assay (LLNA) | mouse      | OECD Guideline 429 (Skin Sensitisation:<br>Local Lymph Node Assay)                             |
| maleic anhydride<br>108-31-6    | sensitising     | Guinea pig maximisation<br>test       | guinea pig | OECD Guideline 406 (Skin Sensitisation)  |
| 2-Butoxyethanol<br>111-76-2     | not sensitising | Guinea pig maximisation test          | guinea pig | OECD Guideline 406 (Skin Sensitisation)  |

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# 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  |
|---------------------------------|----------|--|--|---------|---|
| Titanium dioxide<br>13463-67-7  | negative | bacterial reverse<br>mutation assay (e.g<br>Ames test)   | with and without                           |         | OECD Guideline 471<br>(Bacterial Reverse Mutation<br>Assay)   |
| Titanium dioxide<br>13463-67-7  | negative | in vitro mammalian<br>chromosome<br>aberration test      | with and without                           |         | OECD Guideline 473 (In vitro<br>Mammalian Chromosome<br>Aberration Test)                                      |
| Titanium dioxide<br>13463-67-7  | negative | mammalian cell<br>gene mutation assay                    | with and without                           |         | OECD Guideline 476 (In vitro<br>Mammalian Cell Gene<br>Mutation Test)   |
| Titanium dioxide<br>13463-67-7  | negative | in vitro mammalian<br>cell micronucleus<br>test          | without                                    |         | equivalent or similar to OECD<br>Guideline 487 (In vitro<br>Mammalian Cell<br>Micronucleus Test)              |
| Styrene<br>100-42-5             | positive | sister chromatid<br>exchange assay in<br>mammalian cells | with and without                           |         | OECD Guideline 479 (Genetic<br>Toxicology: In Vitro Sister<br>Chromatid Exchange Assay in<br>Mammalian Cells) |
| methyl methacrylate<br>80-62-6  | negative | bacterial reverse<br>mutation assay (e.g<br>Ames test)   | with and without                           |         | not specified   |
| maleic anhydride<br>108-31-6    | negative | bacterial reverse<br>mutation assay (e.g<br>Ames test)   | with and without                           |         | OECD Guideline 471<br>(Bacterial Reverse Mutation<br>Assay)   |
| 2-Butoxyethanol<br>111-76-2     | negative | bacterial reverse<br>mutation assay (e.g<br>Ames test)   | with and without                           |         | OECD Guideline 471<br>(Bacterial Reverse Mutation<br>Assay)   |
| 2-Butoxyethanol<br>111-76-2     | negative | in vitro mammalian<br>chromosome<br>aberration test      | with and without                           |         | OECD Guideline 473 (In vitro<br>Mammalian Chromosome<br>Aberration Test)                                      |
| 2-Butoxyethanol<br>111-76-2     | negative | mammalian cell<br>gene mutation assay                    | with and without                           |         | OECD Guideline 476 (In vitro<br>Mammalian Cell Gene<br>Mutation Test)   |
| Titanium dioxide<br>13463-67-7  | negative | oral: gavage   |  | rat     | OECD Guideline 474<br>(Mammalian Erythrocyte<br>Micronucleus Test)  |
| Styrene<br>100-42-5             | negative | inhalation: vapour                                       |  | mouse   | not specified   |
| maleic anhydride<br>108-31-6    | negative | inhalation   |  | rat     | OECD Guideline 475<br>(Mammalian Bone Marrow<br>Chromosome Aberration Test)                                   |
| 2-Butoxyethanol<br>111-76-2     | negative | intraperitoneal  |  | mouse   | OECD Guideline 474<br>(Mammalian Erythrocyte<br>Micronucleus Test)  |

# 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 application  | Exposure<br>time /<br>Frequency<br>of treatment | Species | Sex         | Method   |
|---------------------------------|------------------|-----------------------|---|---------|-------------|--|
| Titanium dioxide<br>13463-67-7  | not carcinogenic | oral: feed            | 103 w<br>daily                                  | rat     | male/female | not specified  |
| Styrene<br>100-42-5             | not carcinogenic | inhalation:<br>vapour | 104 w<br>6 h/d, 5 d/w                           | rat     | male/female | OECD Guideline 453<br>(Combined Chronic<br>Toxicity /<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 application       | Species | Method  |
|---------------------------------|---|-----------------------------|----------------------------|---------|---|
| Titanium dioxide<br>13463-67-7  | NOAEL P >= 1.000 mg/kg<br>NOAEL F1 >= 1.000 mg/kg             | one-<br>generation<br>study | oral: feed                 | rat     | OECD Guideline 443<br>(Extended One-Generation<br>Reproductive Toxicity<br>Study) |
| maleic anhydride<br>108-31-6    | NOAEL P 55 mg/kg<br>NOAEL F1 55 mg/kg                         | Two<br>generation<br>study  | oral: gavage               | rat     | OECD Guideline 416 (Two-<br>Generation Reproduction<br>Toxicity Study)            |
| 2-Butoxyethanol<br>111-76-2     | NOAEL P 720 mg/kg<br>NOAEL F1 720 mg/kg<br>NOAEL F2 720 mg/kg | Two<br>generation<br>study  | oral:<br>drinking<br>water | mouse   | not specified   |

# STOT-single exposure:

May cause respiratory irritation.

No substance data available.

#### STOT-repeated exposure::

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

| Hazardous substances | Result / Value      | Route of     | Exposure time /      | Species | Method                    |
|----------------------|---------------------|--------------|----------------------|---------|---------------------------|
| CAS-No.              |                     | application  | Frequency of         |         |                           |
|                      |                     |              | treatment            |         |                           |
| Titanium dioxide     | NOAEL > 1.000 mg/kg | oral: gavage | 92 d                 | rat     | OECD Guideline 408        |
| 13463-67-7           |                     |              | daily                |         | (Repeated Dose 90-Day     |
|                      |                     |              |                      |         | Oral Toxicity in Rodents) |
| Styrene              | NOAEL 1.000 mg/kg   | oral: gavage | 78 w                 | rat     | not specified             |
| 100-42-5             |                     |              | daily (5 d/w)        |         |                           |
| methyl methacrylate  | LOAEL 2000 ppm      | inhalation   | 14 weeks             | mouse   | Dose Range Finding        |
| 80-62-6              |                     |              | 6 hrs/day, 5 days/wk |         | Study                     |
| methyl methacrylate  | NOAEL 1000 ppm      | inhalation   | 14 weeks             | mouse   | Dose Range Finding        |
| 80-62-6              |                     |              | 6 hrs/day, 5 days/wk |         | Study                     |
| maleic anhydride     | NOAEL 40 mg/kg      | oral: feed   | 90 d                 | rat     | not specified             |
| 108-31-6             |                     |              | daily                |         | _                         |
| 2-Butoxyethanol      | NOAEL 0,121 mg/l    | inhalation   | 42 or 90 days        | rat     | not specified             |
| 111-76-2             |                     |              | 6 hours/day, 5       |         | -                         |
|                      |                     |              | days/week            |         |                           |
| 2-Butoxyethanol      | NOAEL < 69 mg/kg    | oral:        | 90 d                 | rat     | equivalent or similar to  |
| 111-76-2             |                     | drinking     | continous            |         | OECD Guideline 408        |
|                      |                     | water        |                      |         | (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, soil or bodies of water.

#### 12.1. Toxicity

## Toxicity (Fish):

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

| Hazardous substances | Value | Value            | Exposure time | Species                      | Method                    |
|----------------------|-------|------------------|---------------|------------------------------|---------------------------|
| CAS-No.              | type  |                  |               |                              |                           |
| Titanium dioxide     | LC50  | Toxicity > Water | 48 h          | Leuciscus idus               | OECD Guideline 203 (Fish, |
| 13463-67-7           |       | solubility       |               |                              | Acute Toxicity Test)      |
| Styrene              | LC50  | 4,02 mg/l        | 96 h          | Pimephales promelas          | EU Method C.1 (Acute      |
| 100-42-5             |       |                  |               |                              | Toxicity for Fish)        |
| Vinyltoluene         | LC50  | 5,2 mg/l         | 96 h          | Pimephales promelas          | OECD Guideline 203 (Fish, |
| 25013-15-4           |       |                  |               |                              | Acute Toxicity Test)      |
| methyl methacrylate  | LC50  | 350 mg/l         | 96 h          | Leuciscus idus               | OECD Guideline 203 (Fish, |
| 80-62-6              |       |                  |               |                              | Acute Toxicity Test)      |
| maleic anhydride     | LC50  | 115 mg/l         |               |                              | OECD Guideline 203 (Fish, |
| 108-31-6             |       |                  |               |                              | Acute Toxicity Test)      |
| 2-Butoxyethanol      | LC50  | 1.474 mg/l       | 96 h          | Oncorhynchus mykiss          | OECD Guideline 203 (Fish, |
| 111-76-2             |       |                  |               |                              | Acute Toxicity Test)      |
| 2-Butoxyethanol      | NOEC  | > 100 mg/l       | 21 d          | Brachydanio rerio (new name: | OECD Guideline 204 (Fish, |
| 111-76-2             |       |                  |               | Danio rerio)                 | Prolonged Toxicity Test:  |
|                      |       |                  |               |                              | 14-day Study)             |

## Toxicity (Daphnia):

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            | Exposure time | Species       | Method                      |
|---------------------------------|---------------|------------------|---------------|---------------|-----------------------------|
| Titanium dioxide                | EC50          | Toxicity > Water | 48 h          | Daphnia magna | OECD Guideline 202          |
| 13463-67-7                      |               | solubility       |               |               | (Daphnia sp. Acute          |
|                                 |               |                  |               |               | Immobilisation Test)        |
| Styrene                         | EC50          | 4,7 mg/l         | 48 h          | Daphnia magna | OECD Guideline 202          |
| 100-42-5                        |               |                  |               |               | (Daphnia sp. Acute          |
|                                 |               |                  |               |               | Immobilisation Test)        |
| Vinyltoluene                    | EC50          | 1,3 mg/l         | 48 h          | Daphnia magna | OECD Guideline 202          |
| 25013-15-4                      |               |                  |               |               | (Daphnia sp. Acute          |
|                                 |               |                  |               |               | Immobilisation Test)        |
| methyl methacrylate             | EC50          | 69 mg/l          | 48 h          | Daphnia magna | EPA OTS 797.1300            |
| 80-62-6                         |               |                  |               |               | (Aquatic Invertebrate Acute |
|                                 |               |                  |               |               | Toxicity Test, Freshwater   |
|                                 |               |                  |               |               | Daphnids)                   |
| maleic anhydride                | EC50          | 42,81 mg/l       | 48 h          | Daphnia magna | OECD Guideline 202          |
| 108-31-6                        |               |                  |               |               | (Daphnia sp. Acute          |
|                                 |               |                  |               |               | Immobilisation Test)        |
| 2-Butoxyethanol                 | EC50          | 1.550 mg/l       | 48 h          | Daphnia magna | OECD Guideline 202          |
| 111-76-2                        |               |                  |               |               | (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 | Value | Value            | Exposure time | Species       | Method                    |
|----------------------|-------|------------------|---------------|---------------|---------------------------|
| CAS-No.              | type  |                  |               |               |                           |
| Titanium dioxide     | NOEC  | Toxicity > Water | 21 d          | Daphnia magna | OECD Guideline 202        |
| 13463-67-7           |       | solubility       |               |               | (Daphnia sp. Chronic      |
|                      |       |                  |               |               | Immobilisation Test)      |
| Styrene              | NOEC  | 1,01 mg/l        | 21 d          | Daphnia magna | OECD 211 (Daphnia         |
| 100-42-5             |       |                  |               |               | magna, Reproduction Test) |
| methyl methacrylate  | NOEC  | 37 mg/l          | 21 d          | Daphnia magna | OECD 211 (Daphnia         |
| 80-62-6              |       |                  |               |               | magna, Reproduction Test) |
| 2-Butoxyethanol      | NOEC  | 100 mg/l         | 21 d          | Daphnia magna | OECD 211 (Daphnia         |
| 111-76-2             |       |                  |               |               | magna, Reproduction Test) |

# Toxicity (Algae):

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

| Hazardous substances           | Value | Value                          | Exposure time | Species   | Method   |
|--------------------------------|-------|--------------------------------|---------------|---|--|
| CAS-No.                        | type  |                                | -             | -   |  |
| Titanium dioxide<br>13463-67-7 | EC50  | Toxicity > Water<br>solubility | 72 h          | Pseudokirchneriella subcapitata   | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Titanium dioxide<br>13463-67-7 | NOEC  | Toxicity > Water<br>solubility | 72 h          | Pseudokirchneriella subcapitata   | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Styrene<br>100-42-5            | EC10  | 0,28 mg/l                      | 96 h          | Selenastrum capricornutum<br>(new name: Pseudokirchneriella<br>subcapitata) | EPA OTS 797.1050 (Algal<br>Toxicity, Tiers I and II) |
| Styrene<br>100-42-5            | EC50  | 6,3 mg/l                       | 96 h          | Selenastrum capricornutum<br>(new name: Pseudokirchneriella<br>subcapitata) | EPA OTS 797.1050 (Algal<br>Toxicity, Tiers I and II) |
| Vinyltoluene<br>25013-15-4     | EC50  | 0,319 mg/l                     | 72 h          | Desmodesmus subspicatus   | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Vinyltoluene<br>25013-15-4     | EC10  | 0,25 mg/l                      | 72 h          | Desmodesmus subspicatus   | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| methyl methacrylate<br>80-62-6 | EC50  | 170 mg/l                       | 96 h          | subcapitata)  | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| methyl methacrylate<br>80-62-6 | NOEC  | 100 mg/l                       | 96 h          | Selenastrum capricornutum<br>(new name: Pseudokirchneriella<br>subcapitata) | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| maleic anhydride<br>108-31-6   | EC50  | 29 mg/l                        | 72 h          | Scenedesmus subspicatus (new name: Desmodesmus subspicatus)                 | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| maleic anhydride<br>108-31-6   | EC10  | 23 mg/l                        | 72 h          | Scenedesmus subspicatus (new name: Desmodesmus subspicatus)                 | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| 2-Butoxyethanol<br>111-76-2    | EC50  | 1.840 mg/l                     | 72 h          | Pseudokirchneriella subcapitata   | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| 2-Butoxyethanol<br>111-76-2    | NOEC  | 286 mg/l                       | 72 h          | Pseudokirchneriella subcapitata   | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |

## Toxicity to microorganisms

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

| Hazardous substances | Value | Value            | Exposure time | Species                       | Method                       |
|----------------------|-------|------------------|---------------|-------------------------------|------------------------------|
| CAS-No.              | type  |                  |               |                               |                              |
| Titanium dioxide     | EC0   | Toxicity > Water | 24 h          | Pseudomonas fluorescens       | DIN 38412, part 8            |
| 13463-67-7           |       | solubility       |               |                               | (Pseudomonas                 |
|                      |       |                  |               |                               | Zellvermehrungshemm-         |
|                      |       |                  |               |                               | Test)                        |
| Styrene              | EC50  | 500 mg/l         | 30 min        | activated sludge of a         | OECD Guideline 209           |
| 100-42-5             |       |                  |               | predominantly domestic sewage | (Activated Sludge,           |
|                      |       |                  |               |                               | Respiration Inhibition Test) |
| Vinyltoluene         | EC0   | 592 mg/l         | 3 h           | activated sludge of a         | EU Method C.11               |
| 25013-15-4           |       |                  |               | predominantly domestic sewage | ·                            |
|                      |       |                  |               |                               | Sludge Respiration           |
|                      |       |                  |               |                               | Inhibition Test)             |
| methyl methacrylate  | EC20  | > 150 - 200 mg/l | 30 min        | activated sludge, domestic    | ISO 8192 (Test for           |
| 80-62-6              |       |                  |               |                               | Inhibition of Oxygen         |
|                      |       |                  |               |                               | Consumption by Activated     |
|                      |       |                  |               |                               | Sludge)                      |
| maleic anhydride     | EC0   | > 10.000 mg/l    | 30 min        |                               | not specified                |
| 108-31-6             |       |                  |               |                               |                              |
| 2-Butoxyethanol      | EC0   | 1.000 mg/l       | 30 min        |                               | not specified                |
| 111-76-2             |       |                  |               |                               |                              |

12.2. Persistence and degradability

| Hazardous substances<br>CAS-No. | Result                     | Test type | Degradability | Exposure<br>time | Method  |
|---------------------------------|----------------------------|-----------|---------------|------------------|---|
| Styrene<br>100-42-5             | readily biodegradable      | aerobic   | 70,9 %        | 28 d             | ISO DIS 9408 (Ultimate Aerobic<br>BiodegradabilityMethod by<br>Determining the Oxygen Demand<br>in a Closed Respirometer) |
| Styrene<br>100-42-5             | inherently biodegradable   | aerobic   | 100 %         | 14 d             | OECD Guideline 302 C (Inherent<br>Biodegradability: Modified MITI<br>Test (II))   |
| Vinyltoluene<br>25013-15-4      | not readily biodegradable. | aerobic   | 36,7 %        | 28 d             | OECD Guideline 301 D (Ready<br>Biodegradability: Closed Bottle<br>Test)   |
| methyl methacrylate<br>80-62-6  | readily biodegradable      | aerobic   | 94 %          | 14 d             | OECD Guideline 301 C (Ready<br>Biodegradability: Modified MITI<br>Test (I))   |
| maleic anhydride<br>108-31-6    | readily biodegradable      | aerobic   | 98 %          | 7 d              | OECD Guideline 301 E (Ready<br>biodegradability: Modified OECD<br>Screening Test)   |
| 2-Butoxyethanol<br>111-76-2     | readily biodegradable      | aerobic   | 73 %          | 30 d             | EU Method C.4-E (Determination<br>of the "Ready"<br>BiodegradabilityClosed Bottle<br>Test)                                |

# 12.3. Bioaccumulative potential

| Hazardous substances<br>CAS-No. | Bioconcentratio<br>n factor (BCF) | Exposure time | Temperature | Species                | Method           |
|---------------------------------|-----------------------------------|---------------|-------------|------------------------|------------------|
| Styrene<br>100-42-5             | 74                                |               |             |                        | other guideline: |
| Vinyltoluene<br>25013-15-4      | > 96 - 180                        | 30 d          |             | Lepomis<br>macrochirus | other guideline: |

# 12.4. Mobility in soil

| Hazardous substances<br>CAS-No. | LogPow | Temperature | Method   |
|---------------------------------|--------|-------------|--|
| Styrene<br>100-42-5             | 2,96   | 25 °C       | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Vinyltoluene<br>25013-15-4      | 3,44   | 25 °C       | QSAR (Quantitative Structure Activity Relationship)                                |
| methyl methacrylate<br>80-62-6  | 1,38   | 20 °C       | other guideline:   |
| maleic anhydride<br>108-31-6    | 1,62   |             | not specified  |
| 2-Butoxyethanol<br>111-76-2     | 0,81   | 25 °C       | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |

# 12.5. Results of PBT and vPvB assessment

| Hazardous substances | PBT / vPvB   |
|----------------------|--|
| CAS-No.              |  |
| Titanium dioxide     | According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not |
| 13463-67-7           | be conducted for inorganic substances.   |
| Styrene              | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very     |
| 100-42-5             | Bioaccumulative (vPvB) criteria.   |
| Vinyltoluene         | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very     |
| 25013-15-4           | Bioaccumulative (vPvB) criteria.   |
| methyl methacrylate  | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very     |
| 80-62-6              | Bioaccumulative (vPvB) criteria.   |
| maleic anhydride     | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very     |
| 108-31-6             | Bioaccumulative (vPvB) criteria.   |
| 2-Butoxyethanol      | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very     |
| 111-76-2             | Bioaccumulative (vPvB) criteria.   |

# 12.6. Endocrine disrupting properties

not applicable

# 12.7. Other adverse effects

No data available.

# **SECTION 13: Disposal considerations**

## **13.1.** Waste treatment methods

Product disposal:

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

Waste code

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. 080409

# **SECTION 14: Transport information**

| 14.1. | UN number or ID number  |                       |  |
|-------|-------------------------|-----------------------|--|
|       | ADR                     | 1866                  |  |
|       | RID                     | 1866                  |  |
|       | ADN                     | 1866                  |  |
|       | IMDG                    | 1866                  |  |
|       | IATA                    | 1866                  |  |
| 14.2. | UN proper shipping name |                       |  |
|       | ADR                     | <b>RESIN SOLUTION</b> |  |
|       | RID                     | RESIN SOLUTION        |  |
|       | ADN                     | RESIN SOLUTION        |  |
|       | IMDG                    | RESIN SOLUTION        |  |
|       | IATA                    | Resin solution        |  |

# 14.3. Transport hazard class(es)

| ADR  | 3 |
|------|---|
| RID  | 3 |
| ADN  | 3 |
| IMDG | 3 |
| IATA | 3 |

## 14.4. Packing group

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

#### 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

|      | Tunnelcode: (D/E) |
|------|-------------------|
| RID  | not applicable    |
| ADN  | not applicable    |
| IMDG | not applicable    |
| IATA | not applicable    |

When shipping as a set (component A and B), the following dangerous goods classification 'UN 3269 Polyester Resin Multi-Component System' can be used.

#### 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): Prior Informed Consent (PIC) (Regulation (EU) No 649/2012): Persistent organic pollutants (Regulation (EU) 2019/1021): VOC content 28,9 % (2010/75/EU) Not applicable Not applicable Not applicable

#### **VOC Paints and Varnishes (EU):**

Regulatory Basis: Product (sub)category: Phase I (from 1.1.2007): max. VOC content: Directive 2004/42/EC B(b) Bodyfiller/stopper 250 g/l 140 g/l

#### 15.2. Chemical safety assessment

A chemical safety assessment has 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: H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. 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. H331 Toxic if inhaled. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H351 Suspected of causing cancer. H361d Suspected of damaging the unborn child. H372 Causes damage to organs through prolonged or repeated exposure. 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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