# COPPER SPRAY PERFECT - 400 ML

| Version | Revision Date: | SDS Number: | Date of last issue: 24.11.2022 |
|---|---|---|---|
| 20.0 | 06.06.2023 | 10783021-00010 | Date of first issue: 11.06.2010 |

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

### 1.1 Product identifier

| | | |
|---|---|---|
| Trade name | : | COPPER SPRAY PERFECT - 400 ML |
| Product code | : | 0893114118 |
| Unique Formula Identifier (UFI) | : | HPS8-N0WV-Y00R-QQ65 |

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

| | | |
|---|---|---|
| Use of the Substance/Mixture | : | Colouring agent<br>Professional use product |
| Recommended restrictions on use | : | Not applicable |

### 1.3 Details of the supplier of the safety data sheet

| | | |
|---|---|---|
| Company | : | Adolf Wuerth GmbH & Co. KG<br>Reinhold-Würth-Str. 12-17<br>74653 Künzelsau |
| Telephone | : | +49 794015 0 |
| Telefax | : | +49 794015 10 00 |
| E-mail address of person responsible for the SDS | : | isi@wuerth.com |

### 1.4 Emergency telephone number

+49 (0)6132 – 84463

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**

| | |
|---|---|
| Aerosols, Category 1 | H222: Extremely flammable aerosol.<br>H229: Pressurised container: May burst if heated. |
| Skin sensitisation, Category 1 | H317: May cause an allergic skin reaction. |
| Specific target organ toxicity - single exposure, Category 3 | H336: May cause drowsiness or dizziness. |
| Eye irritation, Category 2 | H319: Causes serious eye irritation. |

## 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :

Signal word : Danger

Hazard statements :
H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Supplemental Hazard Statements : EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements :

**Prevention:**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P261 Avoid breathing spray.
P280 Wear protective gloves/ eye protection/ face protection.

**Storage:**

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

**Hazardous components which must be listed on the label:**

Dimethyl ether
Acetone
Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides from diethylenetriamine and tall-
Maleic anhydride

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

**Components**

| Chemical name | CAS-No.<br>EC-No.<br>Index-No.<br>Registration number | Classification | Concentration (% w/w) |
|---|---|---|---|
| Dimethyl ether | 115-10-6<br>204-065-8<br>603-019-00-8<br>01-2119472128-37 | Flam. Gas 1A; H220<br>Press. Gas Liquefied gas; H280<br>STOT SE 3; H336 | >= 30 - < 50 |
| Acetone | 67-64-1<br>200-662-2<br>606-001-00-8<br>01-2119471330-49 | Flam. Liq. 2; H225<br>Eye Irrit. 2; H319<br>STOT SE 3; H336<br>EUH066 | >= 30 - < 50 |
| Xylene | 1330-20-7<br>215-535-7<br>601-022-00-9 | Flam. Liq. 3; H226<br>Acute Tox. 4; H332<br>Acute Tox. 4; H312<br>Skin Irrit. 2; H315<br>Eye Irrit. 2; H319<br>STOT SE 3; H335<br>STOT RE 2; H373 (Auditory system)<br>Asp. Tox. 1; H304<br>Aquatic Chronic 3; H412<br>---<br>Acute toxicity esti-mate<br><br>Acute inhalation tox-icity (vapour): 11 mg/l<br>Acute dermal toxicity: 1.100 mg/kg | >= 2,5 - < 10 |
| Ethanol | 64-17-5<br>200-578-6<br>603-002-00-5 | Flam. Liq. 2; H225<br>Eye Irrit. 2; H319<br>---<br>specific concentration limit<br>Eye Irrit. 2; H319<br>>= 50 % | >= 1 - < 10 |
| n-Butyl acetate | 123-86-4<br>204-658-1<br>607-025-00-1<br>01-2119485493-29 | Flam. Liq. 3; H226<br>STOT SE 3; H336<br>EUH066 | >= 1 - < 10 |
| 2-Methoxy-1-methylethyl acetate | 108-65-6<br>203-603-9 | Flam. Liq. 3; H226<br>STOT SE 3; H336 | >= 1 - < 10 |

| | | | |
|---|---|---|---|
| | 607-195-00-7<br>01-2119475791-29 | | |
| Ethylbenzene | 100-41-4<br>202-849-4<br>601-023-00-4 | Flam. Liq. 2; H225<br>Acute Tox. 4; H332<br>STOT RE 2; H373 (Auditory system)<br>Asp. Tox. 1; H304<br>Aquatic Chronic 3; H412<br>---<br>Acute toxicity estimate<br><br>Acute inhalation toxicity (vapour): 17,8 mg/l | >= 1 - < 2,5 |
| butyl glycollate | 7397-62-8<br>230-991-7 | Eye Dam. 1; H318<br>Repr. 2; H361 | >= 0,1 - < 1 |
| Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides from diethylenetriamine and tall- | 222716-38-3 | Acute Tox. 4; H302<br>Skin Irrit. 2; H315<br>Eye Irrit. 2; H319<br>Skin Sens. 1; H317<br>STOT RE 2; H373<br>Aquatic Acute 1; H400<br>Aquatic Chronic 1; H410<br>---<br>M-Factor (Acute aquatic toxicity): 1<br>M-Factor (Chronic aquatic toxicity): 1<br>---<br>Acute toxicity estimate<br><br>Acute oral toxicity: 500 mg/kg | >= 0,1 - < 0,25 |
| Maleic anhydride | 108-31-6<br>203-571-6<br>607-096-00-9 | Acute Tox. 4; H302<br>Skin Corr. 1; H314<br>Eye Dam. 1; H318<br>Resp. Sens. 1; H334<br>Skin Sens. 1A; H317<br>STOT RE 1; H372 (Respiratory Tract)<br>EUH071<br>---<br>specific concentration limit<br>Skin Sens. 1A; H317 | >= 0,001 - < 0,1 |

| | | | |
|---|---|---|---|
| | | >= 0,001 %<br><br>Acute toxicity estimate<br><br>Acute oral toxicity: 1.090 mg/kg | |

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

If inhaled : If inhaled, remove to fresh air.
Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.

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

Risks : May cause an allergic skin reaction.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Repeated exposure may cause skin dryness or cracking.

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

Treatment : Treat symptomatically and supportively.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

| | | |
|---|---|---|
| Suitable extinguishing media | : | Water spray<br>Alcohol-resistant foam<br>Carbon dioxide (CO2)<br>Dry chemical |
| Unsuitable extinguishing media | : | None known. |

### 5.2 Special hazards arising from the substance or mixture

| | | |
|---|---|---|
| Specific hazards during fire-fighting | : | Flash back possible over considerable distance.<br>Vapours may form explosive mixtures with air.<br>Exposure to combustion products may be a hazard to health.<br>If the temperature rises there is danger of the vessels bursting due to the high vapor pressure. |
| Hazardous combustion products | : | Carbon oxides<br>Nitrogen oxides (NOx) |

### 5.3 Advice for firefighters

| | | |
|---|---|---|
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment. |
| Specific extinguishing methods | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |

## SECTION 6: Accidental release measures

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

| | | |
|---|---|---|
| Personal precautions | : | Remove all sources of ignition.<br>Use personal protective equipment.<br>Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8). |

### 6.2 Environmental precautions

| | | |
|---|---|---|
| Environmental precautions | : | Avoid release to the environment.<br>Prevent further leakage or spillage if safe to do so.<br>Prevent spreading over a wide area (e.g. by containment or oil barriers).<br>Retain and dispose of contaminated wash water.<br>Local authorities should be advised if significant spillages cannot be contained. |

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

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.
Do not breathe spray.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.
Do not spray on an open flame or other ignition source.

Do not breathe decomposition products.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye

flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use.

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

Requirements for storage areas and containers : Store locked up. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Do not pierce or burn, even after use. Keep cool. Protect from sunlight.

Advice on common storage : Do not store with the following product types:
Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases

Storage class (TRGS 510) : 2B

Recommended storage temperature : < 50 °C

### 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Occupational Exposure Limits**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|---|---|---|---|---|
| Dimethyl ether | 115-10-6 | TWA | 1.000 ppm<br>1.920 mg/m3 | 2000/39/EC |
| | Further information: Indicative | | | |
| | | AGW | 1.000 ppm<br>1.900 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 8;(II) | | | |
| Acetone | 67-64-1 | TWA | 500 ppm<br>1.210 mg/m3 | 2000/39/EC |
| | Further information: Indicative | | | |
| | | AGW | 500 ppm | DE TRGS |

| | | | | |
|---|---|---|---|---|
| | | | 1.200 mg/m3 | 900 |
| | Peak-limit: excursion factor (category): 2;(I) | | | |
| | Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child | | | |
| Xylene | 1330-20-7 | TWA | 50 ppm<br>221 mg/m3 | 2000/39/EC |
| | Further information: Identifies the possibility of significant uptake through the skin, Indicative | | | |
| | | STEL | 100 ppm<br>442 mg/m3 | 2000/39/EC |
| | Further information: Identifies the possibility of significant uptake through the skin, Indicative | | | |
| | | AGW | 50 ppm<br>220 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 2;(II) | | | |
| | Further information: Skin absorption | | | |
| Ethanol | 64-17-5 | AGW | 200 ppm<br>380 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 4;(II) | | | |
| | Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child | | | |
| n-Butyl acetate | 123-86-4 | STEL | 150 ppm<br>723 mg/m3 | 2019/1831/EU |
| | Further information: Indicative | | | |
| | | TWA | 50 ppm<br>241 mg/m3 | 2019/1831/EU |
| | Further information: Indicative | | | |
| | | AGW | 62 ppm<br>300 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 2;(I) | | | |
| | Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child | | | |
| 2-Methoxy-1-methylethyl acetate | 108-65-6 | STEL | 100 ppm<br>550 mg/m3 | 2000/39/EC |
| | Further information: Identifies the possibility of significant uptake through the skin, Indicative | | | |
| | | TWA | 50 ppm<br>275 mg/m3 | 2000/39/EC |
| | Further information: Identifies the possibility of significant uptake through the skin, Indicative | | | |
| | | AGW | 50 ppm<br>270 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 1;(I) | | | |
| | Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child | | | |
| Ethylbenzene | 100-41-4 | TWA | 100 ppm<br>442 mg/m3 | 2000/39/EC |
| | Further information: Identifies the possibility of significant uptake through the skin, Indicative | | | |
| | | STEL | 200 ppm | 2000/39/EC |

| | | | | |
|---|---|---|---|---|
| | | | 884 mg/m3 | |
| | Further information: Identifies the possibility of significant uptake through the skin, Indicative | | | |
| | | AGW | 20 ppm<br>88 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 2;(II) | | | |
| | Further information: Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child | | | |
| Maleic anhydride | 108-31-6 | AGW (Vapour and aerosols) | 0,02 ppm<br>0,081 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 1; =2.5=(I) | | | |
| | Further information: In well-found cases also a momentary value can be established, that never can be exceeded. This substance will be indicated by = = in combination with an exceeding value., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child, Substance sensitizing through the skin and respiratory system | | | |

**Occupational exposure limits of decomposition products**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|---|---|---|---|---|
| Formaldehyde | 50-00-0 | TWA | 0,3 ppm<br>0,37 mg/m3 | 2004/37/EC |
| | Further information: Dermal sensitisation, Carcinogens or mutagens | | | |
| | | STEL | 0,6 ppm<br>0,74 mg/m3 | 2004/37/EC |
| | Further information: Dermal sensitisation, Carcinogens or mutagens | | | |
| | | AGW | 0,3 ppm<br>0,37 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 2;(I) | | | |
| | Further information: Carcinogenic substance Cat. 1A or 1B or carcinogenic activity or procedure according to § 2 (3) No. 4 of the Hazardous Substances Ordinance - in addition, § 10 GefStoffV must be observed, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child, Substance sensitizing through the skin | | | |
| Methanol | 67-56-1 | TWA | 200 ppm<br>260 mg/m3 | 2006/15/EC |
| | Further information: Indicative, Identifies the possibility of significant uptake through the skin | | | |
| | | AGW | 100 ppm<br>130 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 2;(II) | | | |
| | Further information: Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child | | | |

**Biological occupational exposure limits**

| Substance name | CAS-No. | Control parameters | Sampling time | Basis |
|---|---|---|---|---|
| Acetone | 67-64-1 | Acetone: 80 mg/l (Urine) | Immediately after exposure or after working hours | TRGS 903 |
| Xylene | 1330-20-7 | methylhippuric acid (all isomers): 2.000 | Immediately after exposure or after | TRGS 903 |

| | | | | |
|---|---|---|---|---|
| | | mg/l (Urine) | working hours | |
| Ethylbenzene | 100-41-4 | mandelic acid + phenylglyoxylic acid: 250 mg/g Creatinine (Urine) | Immediately after exposure or after working hours | TRGS 903 |

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

| Substance name | End Use | Exposure routes | Potential health effects | Value |
|---|---|---|---|---|
| n-Butyl acetate | Workers | Inhalation | Acute systemic effects | 600 mg/m3 |
| | Workers | Inhalation | Acute local effects | 600 mg/m3 |
| | Workers | Inhalation | Long-term systemic effects | 300 mg/m3 |
| | Workers | Inhalation | Long-term local effects | 300 mg/m3 |
| | Consumers | Inhalation | Acute systemic effects | 300 mg/m3 |
| | Consumers | Inhalation | Acute local effects | 300 mg/m3 |
| | Consumers | Inhalation | Long-term systemic effects | 35,7 mg/m3 |
| | Consumers | Inhalation | Long-term local effects | 35,7 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 11 mg/kg bw/day |
| | Consumers | Skin contact | Acute systemic effects | 11 mg/kg bw/day |
| | Consumers | Skin contact | Long-term systemic effects | 6 mg/kg bw/day |
| | Consumers | Skin contact | Acute systemic effects | 6 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 2 mg/kg bw/day |
| | Consumers | Ingestion | Acute systemic effects | 2 mg/kg bw/day |
| 2-Methoxy-1-methylethyl acetate | Workers | Inhalation | Long-term systemic effects | 275 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 796 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 33 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 320 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 36 mg/kg bw/day |
| | Workers | Inhalation | Acute local effects | 550 mg/m3 |
| | Consumers | Inhalation | Long-term local effects | 33 mg/m3 |
| Ethanol | Workers | Inhalation | Long-term systemic effects | 950 mg/m3 |

| | | | | |
|---|---|---|---|---|
| | Workers | Skin contact | Long-term systemic effects | 343 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 114 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 206 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 87 mg/kg bw/day |
| Xylene | Workers | Inhalation | Long-term systemic effects | 221 mg/m3 |
| | Workers | Inhalation | Acute systemic effects | 442 mg/m3 |
| | Workers | Inhalation | Long-term local effects | 221 mg/m3 |
| | Workers | Inhalation | Acute local effects | 442 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 212 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 65,3 mg/m3 |
| | Consumers | Inhalation | Acute systemic effects | 260 mg/m3 |
| | Consumers | Inhalation | Long-term local effects | 65,3 mg/m3 |
| | Consumers | Inhalation | Acute local effects | 260 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 125 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 12,5 mg/kg bw/day |
| Ethylbenzene | Workers | Inhalation | Long-term systemic effects | 77 mg/m3 |
| | Workers | Inhalation | Acute local effects | 293 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 180 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 15 mg/m3 |
| | Consumers | Ingestion | Long-term systemic effects | 1,6 mg/kg bw/day |
| 1,2-Benzenedicarboxylic acid, benzyl C7-9-branched and linear alkyl esters | Workers | Inhalation | Long-term systemic effects | 1,32 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 2,8 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 0,23 µg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 1 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 0,1 mg/kg bw/day |
| Acetone | Workers | Inhalation | Long-term systemic effects | 1210 mg/m3 |

| | | | | |
|---|---|---|---|---|
| | Workers | Inhalation | Acute local effects | 2420 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 186 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 200 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 62 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 62 mg/kg bw/day |
| Dimethyl ether | Workers | Inhalation | Long-term systemic effects | 1894 mg/m3 |
| | Consumers | Inhalation | Long-term systemic effects | 471 mg/m3 |
| butyl glycollate | Workers | Inhalation | Long-term systemic effects | 58,8 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 41,7 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 17,4 mg/m3 |
| | Consumers | Inhalation | Long-term local effects | 17,4 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 25 mg/kg bw/day |
| | Consumers | Skin contact | Long-term local effects | 0,11 mg/cm2 |
| | Consumers | Ingestion | Long-term systemic effects | 4,2 mg/kg bw/day |
| Maleic anhydride | Workers | Inhalation | Long-term systemic effects | 0,4 mg/m3 |
| | Workers | Inhalation | Acute systemic effects | 0,8 mg/m3 |
| | Workers | Inhalation | Long-term local effects | 0,4 mg/m3 |
| | Workers | Inhalation | Acute local effects | 0,8 mg/m3 |

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

| Substance name | Environmental Compartment | Value |
|---|---|---|
| n-Butyl acetate | Fresh water | 0,18 mg/l |
| | Marine water | 0,018 mg/l |
| | Sewage treatment plant | 35,6 mg/l |
| | Fresh water sediment | 0,981 mg/kg dry weight (d.w.) |
| | Marine sediment | 0,098 mg/kg dry weight (d.w.) |
| | Soil | 0,09 mg/kg dry weight (d.w.) |
| 2-Methoxy-1-methylethyl acetate | Fresh water | 0,635 mg/l |
| | Marine water | 0,0635 mg/l |
| | Intermittent use/release | 6,35 mg/l |
| | Sewage treatment plant | 100 mg/l |
| | Fresh water sediment | 3,29 mg/kg dry weight (d.w.) |

| | | |
|---|---|---|
| | Marine sediment | 0,329 mg/kg dry weight (d.w.) |
| | Soil | 0,29 mg/kg dry weight (d.w.) |
| Ethanol | Fresh water | 0,96 mg/l |
| | Freshwater - intermittent | 2,75 mg/l |
| | Marine water | 0,79 mg/l |
| | Sewage treatment plant | 580 mg/l |
| | Fresh water sediment | 3,6 mg/kg dry weight (d.w.) |
| | Marine sediment | 2,9 mg/kg dry weight (d.w.) |
| | Soil | 0,63 mg/kg dry weight (d.w.) |
| | Oral (Secondary Poisoning) | 380 mg/kg food |
| Xylene | Fresh water | 0,327 mg/l |
| | Intermittent use/release | 0,327 mg/l |
| | Marine water | 0,327 mg/l |
| | Sewage treatment plant | 6,58 mg/l |
| | Fresh water sediment | 12,46 mg/kg dry weight (d.w.) |
| | Marine sediment | 12,46 mg/kg dry weight (d.w.) |
| | Soil | 2,31 mg/kg dry weight (d.w.) |
| Ethylbenzene | Fresh water | 0,1 mg/l |
| | Freshwater - intermittent | 0,1 mg/l |
| | Marine water | 0,01 mg/l |
| | Sewage treatment plant | 9,6 mg/l |
| | Fresh water sediment | 13,7 mg/kg dry weight (d.w.) |
| | Marine sediment | 1,37 mg/kg dry weight (d.w.) |
| | Soil | 2,68 mg/kg dry weight (d.w.) |
| | Oral (Secondary Poisoning) | 20 mg/kg food |
| Acetone | Fresh water | 10,6 mg/l |
| | Marine water | 1,06 mg/l |
| | Intermittent use/release | 21 mg/l |
| | Sewage treatment plant | 100 mg/l |
| | Fresh water sediment | 30,4 mg/kg dry weight (d.w.) |
| | Marine sediment | 3,04 mg/kg dry weight (d.w.) |
| | Soil | 29,5 mg/kg dry weight (d.w.) |
| Dimethyl ether | Fresh water | 0,155 mg/l |
| | Marine water | 0,016 mg/l |
| | Intermittent use/release | 1,549 mg/l |
| | Sewage treatment plant | 160 mg/l |
| | Fresh water sediment | 0,681 mg/kg dry weight (d.w.) |

| | | |
|---|---|---|
| | Marine sediment | 0,069 mg/kg dry weight (d.w.) |
| | Soil | 0,045 mg/kg dry weight (d.w.) |
| butyl glycollate | Fresh water | 0,05 mg/l |
| | Marine water | 0,005 mg/l |
| | Intermittent use/release | 0,5 mg/l |
| | Sewage treatment plant | 232 mg/l |
| | Fresh water sediment | 0,203 mg/kg |
| | Marine sediment | 0,0203 mg/kg |
| | Soil | 0,0112 mg/kg |
| Maleic anhydride | Fresh water | 0,1 mg/l |
| | Marine water | 0,01 mg/l |
| | Freshwater - intermittent | 0,4281 mg/l |
| | Sewage treatment plant | 44,6 mg/l |
| | Fresh water sediment | 0,334 mg/kg dry weight (d.w.) |
| | Marine sediment | 0,0334 mg/kg dry weight (d.w.) |
| | Soil | 0,0415 mg/kg dry weight (d.w.) |

### 8.2 Exposure controls

**Engineering measures**

Processing may form hazardous compounds (see section 10).
Minimize workplace exposure concentrations.
If sufficient ventilation is unavailable, use with local exhaust ventilation.
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

**Personal protective equipment**

Eye/face protection : Wear the following personal protective equipment:
Safety goggles
Equipment should conform to DIN EN 166

Hand protection
- Material : butyl-rubber
- Break through time : < 15 min
- Glove thickness : 0,7 mm

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:

| | | |
|---|---|---|
| | | If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing.<br>Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc). |
| Respiratory protection | : | If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.<br>Equipment should conform to DIN EN 137 |
| Filter type | : | Self-contained breathing apparatus |

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Aerosol containing a liquefied gas |
| Propellant | : | Dimethyl ether |
| Colour | : | coloured |
| Odour | : | characteristic |
| Odour Threshold | : | No data available |
| Melting point/freezing point | : | No data available |
| Initial boiling point and boiling range | : | Not applicable |
| Flammability (solid, gas) | : | Extremely flammable aerosol. |
| Upper explosion limit / Upper flammability limit | : | 18,6 %(V) |
| Lower explosion limit / Lower flammability limit | : | 2,6 %(V) |
| Flash point | : | Not applicable |
| Auto-ignition temperature | : | 235 °C |
| Decomposition temperature | : | No data available |
| pH | : | substance/mixture is non-soluble (in water) |
| Viscosity | | |
| Viscosity, kinematic | : | Not applicable |
| Solubility(ies) | | |

| | | |
|---|---|---|
| Water solubility | : | partly miscible |
| Partition coefficient: n-octanol/water | : | Not applicable |
| Vapour pressure | : | 3.400 hPa (20 °C) |
| Density | : | 0,75 g/cm³ (20 °C) |
| Relative vapour density | : | Not applicable |
| Particle characteristics | | |
| Particle size | : | Not applicable |

**9.2 Other information**

| | | |
|---|---|---|
| Explosives | : | Not explosive |
| Oxidizing properties | : | The substance or mixture is not classified as oxidizing. |
| Evaporation rate | : | Not applicable |

## SECTION 10: Stability and reactivity

**10.1 Reactivity**

Not classified as a reactivity hazard.

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

| | | |
|---|---|---|
| Hazardous reactions | : | Extremely flammable aerosol.<br>Vapours may form explosive mixture with air.<br>If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.<br>Can react with strong oxidizing agents.<br>Hazardous decomposition products will be formed at elevated temperatures. |

**10.4 Conditions to avoid**

| | | |
|---|---|---|
| Conditions to avoid | : | Heat, flames and sparks. |

**10.5 Incompatible materials**

| | | |
|---|---|---|
| Materials to avoid | : | Oxidizing agents |

**10.6 Hazardous decomposition products**

| | | |
|---|---|---|
| Thermal decomposition | : | Formaldehyde<br>Methanol |

## SECTION 11: Toxicological information

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

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

**Acute toxicity**

Not classified based on available information.

**Product:**

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

**Components:**

**Dimethyl ether:**

Acute inhalation toxicity : LC50 (Rat): 164000 ppm
Exposure time: 4 h
Test atmosphere: gas

**Acetone:**

Acute oral toxicity : LD50 (Rat): 5.800 mg/kg

Acute inhalation toxicity : LC50 (Rat): 76 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 7.426 mg/kg

**Xylene:**

Acute oral toxicity : LD50 (Rat): 3.523 mg/kg
Method: Directive 67/548/EEC, Annex V, B.1.

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Expert judgement
Remarks: Based on national or regional regulation.

Acute dermal toxicity : Acute toxicity estimate: 1.100 mg/kg
Method: Expert judgement
Remarks: Based on national or regional regulation.

**Ethanol:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5.000 mg/kg<br>Method: OECD Test Guideline 401 |
| Acute inhalation toxicity | : | LC50 (Rat): 124,7 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour |

**n-Butyl acetate:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5.000 mg/kg |
| Acute inhalation toxicity | : | LC50 (Rat): > 21,1 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: OECD Test Guideline 403 |
| Acute dermal toxicity | : | LD50 (Rabbit): > 5.000 mg/kg |

**2-Methoxy-1-methylethyl acetate:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5.000 mg/kg |
| Acute inhalation toxicity | : | LC0 (Rat): 9,48 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour |
| Acute dermal toxicity | : | LD50 (Rat): > 5.000 mg/kg |

**Ethylbenzene:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 3.500 mg/kg |
| Acute inhalation toxicity | : | LC50 (Rat): 17,8 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour |
| Acute dermal toxicity | : | LD50 (Rabbit): > 5.000 mg/kg |

**butyl glycollate:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 4.595 mg/kg |
| Acute inhalation toxicity | : | LC0 (Rat): >= 6,2 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour |

**Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides from diethylenetriamine and tall-:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate (Rat): 500 mg/kg<br>Method: Expert judgement |

**Maleic anhydride:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 1.090 mg/kg<br>Method: OECD Test Guideline 401 |
| Acute inhalation toxicity | : | LC50 (Rat): > 4,35 mg/l<br>Exposure time: 1 h<br>Test atmosphere: vapour |
| Acute dermal toxicity | : | LD50 (Rabbit): 2.620 mg/kg |

**Skin corrosion/irritation**

Repeated exposure may cause skin dryness or cracking.

**Components:**

**Acetone:**

| | | |
|---|---|---|
| Assessment | : | Repeated exposure may cause skin dryness or cracking. |

**Xylene:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | Skin irritation |

**Ethanol:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| Result | : | No skin irritation |

**n-Butyl acetate:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No skin irritation |
| Assessment | : | Repeated exposure may cause skin dryness or cracking. |

**2-Methoxy-1-methylethyl acetate:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No skin irritation |

**butyl glycollate:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No skin irritation |

**Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides from diethylenetriamine and tall-:**

| | | |
|---|---|---|
| Result | : | Skin irritation |

**Maleic anhydride:**

Species : Rabbit
Result : Corrosive after 4 hours or less of exposure

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Components:**

**Acetone:**

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irritation to eyes, reversing within 21 days

**Xylene:**

Species : Rabbit
Result : Irritation to eyes, reversing within 21 days

**Ethanol:**

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irritation to eyes, reversing within 21 days

**n-Butyl acetate:**

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation

**2-Methoxy-1-methylethyl acetate:**

Species : Rabbit
Result : No eye irritation

**butyl glycollate:**

Species : Rabbit
Result : Irreversible effects on the eye

**Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides from diethylenetriamine and tall-:**

Result : Irritation to eyes, reversing within 21 days

**Maleic anhydride:**

Species : Rabbit
Result : Irreversible effects on the eye

**Respiratory or skin sensitisation**

**Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

Not classified based on available information.

**Components:**

**Acetone:**

| | | |
|---|---|---|
| Test Type | : | Maximisation Test |
| Exposure routes | : | Skin contact |
| Species | : | Guinea pig |
| Result | : | negative |

**Xylene:**

| | | |
|---|---|---|
| Test Type | : | Local lymph node assay (LLNA) |
| Exposure routes | : | Skin contact |
| Species | : | Mouse |
| Result | : | negative |

**Ethanol:**

| | | |
|---|---|---|
| Test Type | : | Local lymph node assay (LLNA) |
| Exposure routes | : | Skin contact |
| Species | : | Mouse |
| Result | : | negative |

**n-Butyl acetate:**

| | | |
|---|---|---|
| Test Type | : | Maximisation Test |
| Exposure routes | : | Skin contact |
| Species | : | Guinea pig |
| Result | : | negative |

**2-Methoxy-1-methylethyl acetate:**

| | | |
|---|---|---|
| Test Type | : | Maximisation Test |
| Exposure routes | : | Skin contact |
| Species | : | Guinea pig |
| Method | : | OECD Test Guideline 406 |
| Result | : | negative |

**butyl glycollate:**

| | | |
|---|---|---|
| Test Type | : | Maximisation Test |
| Exposure routes | : | Skin contact |
| Species | : | Guinea pig |
| Method | : | OECD Test Guideline 406 |
| Result | : | negative |

**Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides from diethylenetriamine and tall-:**

| | | |
|---|---|---|
| Test Type | : | Maximisation Test |
| Exposure routes | : | Skin contact |
| Species | : | Guinea pig |
| Result | : | positive |

| | | |
|---|---|---|
| Remarks | : | Based on data from similar materials |
| Assessment | : | Probability or evidence of skin sensitisation in humans |
| Remarks | : | Based on data from similar materials |

**Maleic anhydride:**

| | | |
|---|---|---|
| Test Type | : | Local lymph node assay (LLNA) |
| Exposure routes | : | Skin contact |
| Species | : | Mouse |
| Result | : | positive |
| Assessment | : | Probability or evidence of high skin sensitisation rate in humans |
| Exposure routes | : | inhalation (dust/mist/fume) |
| Species | : | Rat |
| Result | : | positive |
| Assessment | : | Probability of respiratory sensitisation in humans based on animal testing |

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**Dimethyl ether:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Method: OECD Test Guideline 471<br>Result: negative<br><br>Test Type: Chromosome aberration test in vitro<br>Method: OECD Test Guideline 473<br>Result: negative<br><br>Test Type: In vitro mammalian cell gene mutation test<br>Method: OECD Test Guideline 476<br>Result: negative |
| Genotoxicity in vivo | : | Test Type: Sex-linked recessive lethal test in Drosophila melanogaster (in vivo)<br>Application Route: inhalation (gas)<br>Result: negative |

**Acetone:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: In vitro mammalian cell gene mutation test<br>Result: negative<br><br>Test Type: Bacterial reverse mutation assay (AMES)<br>Result: negative |

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative

**Xylene:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Skin contact
Result: negative

**Ethanol:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Ingestion
Result: equivocal

**n-Butyl acetate:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

**2-Methoxy-1-methylethyl acetate:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)

Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

**Ethylbenzene:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
Species: Mouse
Application Route: Inhalation
Method: OECD Test Guideline 486
Result: negative

**butyl glycollate:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: Mouse Lymphoma
Method: OECD Test Guideline 476
Result: negative

**Maleic anhydride:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapour)
Result: negative

**Carcinogenicity**

Not classified based on available information.

**Components:**

**Dimethyl ether:**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 2 Years |
| Result | : | negative |

**Acetone:**

| | | |
|---|---|---|
| Species | : | Mouse |
| Application Route | : | Skin contact |
| Exposure time | : | 424 days |
| Result | : | negative |

**Xylene:**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | Ingestion |
| Exposure time | : | 103 weeks |
| Result | : | negative |

**2-Methoxy-1-methylethyl acetate:**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 2 Years |
| Result | : | negative |
| Remarks | : | Based on data from similar materials |

**Ethylbenzene:**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 104 weeks |
| Result | : | positive |
| Remarks | : | The mechanism or mode of action may not be relevant in humans. |

**Maleic anhydride:**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | Ingestion |
| Exposure time | : | 2 Years |
| Result | : | negative |

**Reproductive toxicity**

Not classified based on available information.

**Components:**

**Dimethyl ether:**

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

**Acetone:**

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

**Xylene:**

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

**Ethanol:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Result: negative

**n-Butyl acetate:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 416
Result: negative

Effects on foetal develop- : Test Type: Embryo-foetal development

ment

Species: Rat
Application Route: inhalation (vapour)
Result: negative

**2-Methoxy-1-methylethyl acetate:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 416
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

**Ethylbenzene:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 416
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Inhalation
Method: OECD Test Guideline 414
Result: negative

**butyl glycollate:**

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: positive

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

**Maleic anhydride:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

**STOT - single exposure**

May cause drowsiness or dizziness.

**Components:**

**Dimethyl ether:**

Assessment : May cause drowsiness or dizziness.

**Acetone:**

Assessment : May cause drowsiness or dizziness.

**Xylene:**

Assessment : May cause respiratory irritation.

**n-Butyl acetate:**

Assessment : May cause drowsiness or dizziness.

**2-Methoxy-1-methylethyl acetate:**

Assessment : May cause drowsiness or dizziness.

**STOT - repeated exposure**

Not classified based on available information.

**Components:**

**Xylene:**

Exposure routes : inhalation (vapour)
Target Organs : Auditory system
Assessment : Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

**Ethylbenzene:**

Exposure routes : inhalation (vapour)
Target Organs : Auditory system
Assessment : Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

**Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides from diethylenetriamine and tall-:**

Exposure routes : Ingestion
Assessment : Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

**Maleic anhydride:**

Exposure routes : inhalation (vapour)
Target Organs : Respiratory Tract

Assessment : Shown to produce significant health effects in animals at concentrations of 0.2 mg/l/6h/d or less.

**Repeated dose toxicity**

**Components:**

**Dimethyl ether:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 47,11 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 2 yr |

**Acetone:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 900 mg/kg |
| LOAEL | : | 1.700 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 Days |

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 45 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 8 Weeks |

**Xylene:**

| | | |
|---|---|---|
| Species | : | Rat |
| LOAEL | : | > 0,2 - 1 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 13 Weeks |
| Remarks | : | Based on data from similar materials |

| | | |
|---|---|---|
| Species | : | Rat |
| LOAEL | : | 150 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 Days |

**Ethanol:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 1.280 mg/kg |
| LOAEL | : | 3.156 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 Days |

**n-Butyl acetate:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 2,4 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 90 Days |

**2-Methoxy-1-methylethyl acetate:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | > 1.000 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 41 - 45 Days |
| Method | : | OECD Test Guideline 422 |

| | | |
|---|---|---|
| Species | : | Mouse |
| NOAEL | : | 1,62 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 2 yr |
| Remarks | : | Based on data from similar materials |

| | | |
|---|---|---|
| Species | : | Rabbit |
| NOAEL | : | > 1.838 mg/kg |
| Application Route | : | Skin contact |
| Exposure time | : | 90 Days |
| Remarks | : | Based on data from similar materials |

**Ethylbenzene:**

| | | |
|---|---|---|
| Species | : | Rat |
| LOAEL | : | 0,868 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 13 Weeks |

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 75 mg/kg |
| LOAEL | : | 250 mg/kg |
| Application Route | : | Ingestion |
| Method | : | OECD Test Guideline 408 |

**butyl glycollate:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 1.000 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 29 Days |
| Method | : | OECD Test Guideline 407 |

**Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides from diethylenetriamine and tall-:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 7 mg/kg |
| LOAEL | : | 22 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 40 - 50 Days |
| Method | : | OECD Test Guideline 422 |
| Remarks | : | Based on data from similar materials |

**Maleic anhydride:**

| | | |
|---|---|---|
| Species | : | Rat |

| | | |
|---|---|---|
| LOAEL | : | 100 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 Days |

| | | |
|---|---|---|
| Species | : | Rat |
| LOAEL | : | 0,01 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 28 Days |

**Aspiration toxicity**

Not classified based on available information.

**Components:**

**Acetone:**

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

**Xylene:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**Ethylbenzene:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

### 11.2 Information on other hazards

**Endocrine disrupting properties**

**Product:**

| | | |
|---|---|---|
| Assessment | : | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |

## SECTION 12: Ecological information

### 12.1 Toxicity

**Components:**

**Dimethyl ether:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Poecilia reticulata (guppy)): > 4.100 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 4.400 mg/l<br>Exposure time: 48 h |

| | | |
|---|---|---|
| Toxicity to microorganisms | : | EC10 (Pseudomonas putida): > 1.600 mg/l |

**Acetone:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 5.540 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia pulex (Water flea)): 8.800 mg/l<br>Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : | NOEC (Pseudokirchneriella subcapitata (green algae)): 7.000 mg/l<br>Exposure time: 96 h |
| Toxicity to microorganisms | : | EC50 : 61.150 mg/l<br>Exposure time: 30 min<br>Method: ISO 8192 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: >= 79 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea)<br>Method: OECD Test Guideline 211 |

**Xylene:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 13,5 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l<br>Exposure time: 24 h<br>Method: OECD Test Guideline 202<br>Remarks: Based on data from similar materials |
| Toxicity to algae/aquatic plants | : | EC50 (Skeletonema costatum (marine diatom)): 10 mg/l<br>Exposure time: 72 h |
| Toxicity to microorganisms | : | NOEC : > 100 mg/l<br>Exposure time: 3 h<br>Method: OECD Test Guideline 209<br>Remarks: Based on data from similar materials |
| Toxicity to fish (Chronic toxicity) | : | NOEC: > 0,1 - < 1 mg/l<br>Exposure time: 35 d<br>Species: Danio rerio (zebra fish)<br>Method: OECD Test Guideline 210<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | EL10: > 1 - 10 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea)<br>Method: OECD Test Guideline 211<br>Remarks: Based on data from similar materials |

**Ethanol:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Pimephales promelas (fathead minnow)): > 1.000 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Ceriodaphnia (water flea)): > 1.000 mg/l<br>Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : | ErC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l<br>Exposure time: 72 h<br><br>EC10 (Chlorella vulgaris (Fresh water algae)): 11,5 mg/l<br>Exposure time: 72 h |
| Toxicity to microorganisms | : | EC50 (Pseudomonas putida): 6.500 mg/l<br>Exposure time: 16 h |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 9,6 mg/l<br>Exposure time: 9 d<br>Species: Daphnia magna (Water flea) |

**n-Butyl acetate:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Pimephales promelas (fathead minnow)): 18 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia sp. (water flea)): 44 mg/l<br>Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): 397 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br>Remarks: Based on data from similar materials<br><br>NOEC (Pseudokirchneriella subcapitata (green algae)): 196 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br>Remarks: Based on data from similar materials |
| Toxicity to microorganisms | : | IC50 (Tetrahymena pyriformis): 356 mg/l<br>Exposure time: 40 h |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 23,2 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea)<br>Method: OECD Test Guideline 211<br>Remarks: Based on data from similar materials |

**2-Methoxy-1-methylethyl acetate:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 - 180 mg/l |

Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): > 1.000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC10 : > 1.000 mg/l
Exposure time: 0,5 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: >= 100 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

**Ethylbenzene:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4,2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,8 - 2,4 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 3,6 mg/l
Exposure time: 96 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 3,4 mg/l
Exposure time: 96 h

Toxicity to microorganisms : EC50 (Nitrosomonas sp.): 96 mg/l
Exposure time: 24 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,96 mg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia (water flea)

**butyl glycollate:**

Toxicity to fish : LC0 (Leuciscus idus (Golden orfe)): >= 50 mg/l
Exposure time: 48 h
Method: DIN 38412

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 280 mg/l

| | | |
|---|---|---|
| aquatic invertebrates | | Exposure time: 24 h<br>Method: DIN 38412 |
| Toxicity to algae/aquatic plants | : | EC10 (Lemna gibba (gibbous duckweed)): > 87,4 mg/l<br>Exposure time: 7 d |
| Toxicity to microorganisms | : | EC50 (Pseudomonas putida): 2.320 mg/l<br>Exposure time: 18 h |

**Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides from diethylenetriamine and tall-:**

| | | |
|---|---|---|
| Toxicity to fish | : | LL50 (Danio rerio (zebra fish)): > 1 - 10 mg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 0,1 - 1 mg/l<br>Exposure time: 48 h<br>Remarks: Based on data from similar materials |
| Toxicity to algae/aquatic plants | : | ErC50 (Desmodesmus subspicatus (green algae)): > 0,1 - 1 mg/l<br>Exposure time: 72 h<br>Remarks: Based on data from similar materials<br><br>EC10 (Desmodesmus subspicatus (green algae)): > 0,1 - 1 mg/l<br>Exposure time: 72 h<br>Remarks: Based on data from similar materials |
| M-Factor (Acute aquatic toxicity) | : | 1 |
| Toxicity to microorganisms | : | EC50 : 211 mg/l<br>Exposure time: 3 h<br>Remarks: Based on data from similar materials |
| M-Factor (Chronic aquatic toxicity) | : | 1 |

**Maleic anhydride:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 115 mg/l<br>Exposure time: 48 h<br>Test substance: Neutralised product<br>Method: DIN 38412 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 10 - 100 mg/l<br>Exposure time: 48 h<br>Test substance: Neutralised product<br>Method: OECD Test Guideline 202<br>Remarks: Based on data from similar materials |
| Toxicity to algae/aquatic | : | NOEC (Pseudokirchneriella subcapitata (microalgae)): 150 |

| | | |
|---|---|---|
| plants | | mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br><br>ErC50 (Pseudokirchneriella subcapitata (microalgae)): > 150 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| Toxicity to microorganisms | : | EC10 (Pseudomonas putida): 44,6 mg/l<br>Exposure time: 18 h<br>Test substance: Neutralised product<br>Method: DIN 38 412 Part 8 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 10 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea) |

**12.2 Persistence and degradability**

**Components:**

**Dimethyl ether:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Not readily biodegradable.<br>Biodegradation: 5 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301D |

**Acetone:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 91 %<br>Exposure time: 28 d |

**Xylene:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: > 70 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301F<br>Remarks: Based on data from similar materials |

**Ethanol:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 84 %<br>Exposure time: 20 d |

**n-Butyl acetate:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 83 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301D |

**2-Methoxy-1-methylethyl acetate:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

**Ethylbenzene:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 70 - 80 %
Exposure time: 28 d

**butyl glycollate:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 81 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

**Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides from diethylenetriamine and tall-:**

Biodegradability : Result: Not readily biodegradable.
Remarks: Based on data from similar materials

**Maleic anhydride:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 93,2 %
Exposure time: 11 d
Method: OECD Test Guideline 301B

### 12.3 Bioaccumulative potential

**Components:**

**Dimethyl ether:**

Partition coefficient: n-octanol/water : log Pow: 0,2

**Acetone:**

Partition coefficient: n-octanol/water : log Pow: -0,27 - -0,23

**Xylene:**

Partition coefficient: n-octanol/water : log Pow: 3,16
Remarks: Calculation

**Ethanol:**

Partition coefficient: n- : log Pow: -0,35

octanol/water

**n-Butyl acetate:**

Partition coefficient: n-octanol/water : log Pow: 2,3

**2-Methoxy-1-methylethyl acetate:**

Partition coefficient: n-octanol/water : log Pow: 1,2

**Ethylbenzene:**

Partition coefficient: n-octanol/water : log Pow: 3,6

**Maleic anhydride:**

Partition coefficient: n-octanol/water : log Pow: -2,61

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

**Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Endocrine disrupting properties

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in

discussion with the waste disposal authorities.
Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Empty containers retain residue and can be dangerous.
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.
If not otherwise specified: Dispose of as unused product.
Please ensure aerosol cans are sprayed completely empty (including propellant)

Waste Code : The following Waste Codes are only suggestions:

used product
08 01 11, waste paint and varnish containing organic solvents or other hazardous substances

unused product
08 01 11, waste paint and varnish containing organic solvents or other hazardous substances

uncleaned packagings
15 01 10, packaging containing residues of or contaminated by hazardous substances

Acc. Packaging Act properly emptied packaging:
Properly emptied, non-contaminated packaging of non-hazardous products can be supplied to a system for the collection of sales packaging.

## SECTION 14: Transport information

### 14.1 UN number or ID number

**ADN** : UN 1950

**ADR** : UN 1950

**RID** : UN 1950

**IMDG** : UN 1950

**IATA** : UN 1950

### 14.2 UN proper shipping name

**ADN** : AEROSOLS

**ADR** : AEROSOLS

**RID** : AEROSOLS

**IMDG** : AEROSOLS

**IATA** : Aerosols, flammable

**14.3 Transport hazard class(es)**

| | | Class | Subsidiary risks |
|---|---|---|---|
| **ADN** | : | 2 | 2.1 |
| **ADR** | : | 2 | 2.1 |
| **RID** | : | 2 | 2.1 |
| **IMDG** | : | 2.1 | |
| **IATA** | : | 2.1 | |

**14.4 Packing group**

**ADN**
Packing group : Not assigned by regulation
Classification Code : 5F
Labels : 2.1

**ADR**
Packing group : Not assigned by regulation
Classification Code : 5F
Labels : 2.1
Tunnel restriction code : (D)

**RID**
Packing group : Not assigned by regulation
Classification Code : 5F
Hazard Identification Number : 23
Labels : 2.1

**IMDG**
Packing group : Not assigned by regulation
Labels : 2.1
EmS Code : F-D, S-U

**IATA (Cargo)**
Packing instruction (cargo aircraft) : 203
Packing instruction (LQ) : Y203
Packing group : Not assigned by regulation
Labels : Flammable Gas

**IATA (Passenger)**
Packing instruction (passenger aircraft) : 203
Packing instruction (LQ) : Y203
Packing group : Not assigned by regulation
Labels : Flammable Gas

**14.5 Environmental hazards**

**ADN**
Environmentally hazardous : no

**ADR**

Environmentally hazardous : no

**RID**
Environmentally hazardous : no

**IMDG**
Marine pollutant : no

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### 14.7 Maritime transport in bulk according to IMO instruments

Remarks : Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

| | | |
|---|---|---|
| REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) | : | Conditions of restriction for the following entries should be considered:<br>Number on list 75<br>If you intend to use this product as tattoo ink, please contact your vendor. |
| REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). | : | Not applicable |
| Regulation (EC) No 1005/2009 on substances that deplete the ozone layer | : | Not applicable |
| Regulation (EU) 2019/1021 on persistent organic pollutants (recast) | : | Not applicable |
| Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals | : | Not applicable |
| REACH - List of substances subject to authorisation (Annex XIV) | : | Not applicable |

| | |
|---|---|
| Regulation (EU) 2019/1148 on the marketing and use of explosives precursors | |
| This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. | Acetone (ANNEX II) |

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

| | | Quantity 1 | Quantity 2 |
|---|---|---|---|
| P3a | FLAMMABLE AEROSOLS | 150 t | 500 t |

Water hazard class (Germany) : WGK 2 obviously hazardous to water
Classification according to AwSV, Annex 1 (5.2)

Volatile organic compounds : Directive 2004/42/EC
VOC content in g/l: 733 g/l
Product sub-category: Special finishes
Coatings: All types
VOC limit level 1 (2007): 840 g/l

Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: 90,42 %

**Other regulations:**

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

**15.2 Chemical safety assessment**

A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

Other information : Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

**Full text of H-Statements**

| | | |
|---|---|---|
| H220 | : | Extremely flammable gas. |
| H225 | : | Highly flammable liquid and vapour. |
| H226 | : | Flammable liquid and vapour. |
| H280 | : | Contains gas under pressure; may explode if heated. |
| H302 | : | Harmful if swallowed. |
| H304 | : | May be fatal if swallowed and enters airways. |
| H312 | : | Harmful in contact with skin. |
| H314 | : | Causes severe skin burns and eye damage. |
| H315 | : | Causes skin irritation. |
| H317 | : | May cause an allergic skin reaction. |
| H318 | : | Causes serious eye damage. |
| H319 | : | Causes serious eye irritation. |
| 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. |
| H361 | : | Suspected of damaging fertility or the unborn child. |
| H372 | : | Causes damage to organs through prolonged or repeated exposure. |
| 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. |
| H412 | : | Harmful to aquatic life with long lasting effects. |
| EUH066 | : | Repeated exposure may cause skin dryness or cracking. |
| EUH071 | : | Corrosive to the respiratory tract. |

**Full text of other abbreviations**

| | | |
|---|---|---|
| Acute Tox. | : | Acute toxicity |
| Aquatic Acute | : | Short-term (acute) aquatic hazard |
| Aquatic Chronic | : | Long-term (chronic) aquatic hazard |
| Asp. Tox. | : | Aspiration hazard |
| Eye Dam. | : | Serious eye damage |
| Eye Irrit. | : | Eye irritation |
| Flam. Gas | : | Flammable gases |
| Flam. Liq. | : | Flammable liquids |
| Press. Gas | : | Gases under pressure |
| Repr. | : | Reproductive toxicity |
| Resp. Sens. | : | Respiratory sensitisation |
| Skin Corr. | : | Skin corrosion |
| Skin Irrit. | : | Skin irritation |
| Skin Sens. | : | Skin sensitisation |
| STOT RE | : | Specific target organ toxicity - repeated exposure |
| STOT SE | : | Specific target organ toxicity - single exposure |
| 2000/39/EC | : | Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values |
| 2004/37/EC | : | Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work |
| 2006/15/EC | : | Europe. Indicative occupational exposure limit values |
| 2019/1831/EU | : | Europe. Commission Directive 2019/1831/EU establishing a fifth list of indicative occupational exposure limit values |
| DE TRGS 900 | : | Germany. TRGS 900 - Occupational exposure limit values. |
| TRGS 903 | : | TRGS 903 - Biological limit values |
| 2000/39/EC / TWA | : | Limit Value - eight hours |
| 2000/39/EC / STEL | : | Short term exposure limit |
| 2004/37/EC / STEL | : | Short term exposure limit |
| 2004/37/EC / TWA | : | Long term exposure limit |
| 2006/15/EC / TWA | : | Limit Value - eight hours |
| 2019/1831/EU / TWA | : | Limit Value - eight hours |
| 2019/1831/EU / STEL | : | Short term exposure limit |
| DE TRGS 900 / AGW | : | Time Weighted Average |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regula-

tion (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

**Further information**

| | | |
|---|---|---|
| Sources of key data used to compile the Safety Data Sheet | : | Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/ |

| **Classification of the mixture:** | | **Classification procedure:** |
|---|---|---|
| Aerosol 1 | H222, H229 | Based on product data or assessment |
| Skin Sens. 1 | H317 | Calculation method |
| STOT SE 3 | H336 | Calculation method |
| Eye Irrit. 2 | H319 | Calculation method |

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.