# METALYT - 400 ML

| Version | Revision Date: | SDS Number: | Date of last issue: 25.05.2023 |
|---|---|---|---|
| 12.1 | 02.10.2023 | 10620913-00011 | Date of first issue: 25.02.2011 |

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

### 1.1 Product identifier

| | | |
|---|---|---|
| Trade name | : | METALYT - 400 ML |
| Product code | : | 0893214420 |
| Unique Formula Identifier (UFI) | : | UTJC-A072-6004-63NV |

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

| | | |
|---|---|---|
| Use of the Substance/Mixture | : | Corrosion inhibitor<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 irritation, Category 2 | H315: Causes skin irritation. |
| Serious eye damage, Category 1 | H318: Causes serious eye damage. |

| | |
|---|---|
| Specific target organ toxicity - single exposure, Category 3 | H335: May cause respiratory irritation. |
| Specific target organ toxicity - single exposure, Category 3 | H336: May cause drowsiness or dizziness. |
| Specific target organ toxicity - repeated exposure, Category 2 | H373: May cause damage to organs through prolonged or repeated exposure. |
| Long-term (chronic) aquatic hazard, Category 2 | H411: Toxic to aquatic life with long lasting effects. |

## 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.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

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.
P260 Do not breathe spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P391 Collect spillage.

**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:**

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane
Xylene
Titanium tetrabutanolate
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

### 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) |
|---|---|---|---|
| Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane | Not Assigned<br><br>01-2119486291-36 | Flam. Liq. 2; H225<br>STOT SE 3; H336<br>Asp. Tox. 1; H304<br>Aquatic Chronic 2; H411<br>EUH066 | >= 10 - < 20 |
| Xylene | 1330-20-7<br>215-535-7<br>601-022-00-9<br>01-2119488216-32 | 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 estimate<br><br>Acute inhalation toxicity (vapour): 11 mg/l | >= 10 - < 20 |

| | | | |
|---|---|---|---|
| | | Acute dermal toxicity: 1.100 mg/kg | |
| Titanium tetrabutanolate | 5593-70-4<br>227-006-8<br>01-2119967423-33 | Flam. Liq. 3; H226<br>Skin Irrit. 2; H315<br>Eye Dam. 1; H318<br>STOT SE 3; H336<br>STOT SE 3; H335 | >= 10 - < 20 |
| Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | Not Assigned<br><br>01-2119475514-35 | Flam. Liq. 2; H225<br>Skin Irrit. 2; H315<br>STOT SE 3; H336<br>Asp. Tox. 1; H304<br>Aquatic Chronic 2; H411 | >= 10 - < 20 |
| Zinc | 7440-66-6<br>231-175-3<br>030-001-01-9 | Aquatic Acute 1; H400<br>Aquatic Chronic 1; H410<br>---<br>M-Factor (Acute aquatic toxicity): 1<br>M-Factor (Chronic aquatic toxicity): 1 | >= 10 - < 20 |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | 64742-49-0<br><br>01-2119475515-33 | Flam. Liq. 2; H225<br>Skin Irrit. 2; H315<br>STOT SE 3; H336<br>Asp. Tox. 1; H304<br>Aquatic Chronic 2; H411 | >= 2,5 - < 10 |
| Hydrocarbons, C6, isoalkanes, <5% n-hexane | 64742-49-0<br><br>01-2119484651-34 | Flam. Liq. 2; H225<br>Skin Irrit. 2; H315<br>STOT SE 3; H336<br>Asp. Tox. 1; H304<br>Aquatic Chronic 2; H411 | >= 2,5 - < 10 |
| 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 | >= 2,5 - < 10 |
| Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics | Not Assigned<br><br>01-2119457273-39 | Asp. Tox. 1; H304<br>EUH066 | >= 1 - < 10 |
| n-Hexane | 110-54-3 | Flam. Liq. 2; H225 | >= 0,25 - < 1 |

| | | | |
|---|---|---|---|
| | 203-777-6<br>601-037-00-0 | Skin Irrit. 2; H315<br>Repr. 2; H361f<br>STOT SE 3; H336<br>STOT RE 2; H373 (Central nervous system)<br>Asp. Tox. 1; H304<br>Aquatic Chronic 2; H411<br>---<br>specific concentration limit<br>STOT RE 2; H373<br>>= 5 % | |
| Toluene | 108-88-3<br>203-625-9<br>601-021-00-3 | Flam. Liq. 2; H225<br>Skin Irrit. 2; H315<br>Repr. 2; H361d<br>STOT SE 3; H336<br>STOT RE 2; H373 (Central nervous system)<br>Asp. Tox. 1; H304<br>Aquatic Chronic 3; H412 | >= 0,25 - < 1 |
| Cyclohexane | 110-82-7<br>203-806-2<br>601-017-00-1 | Flam. Liq. 2; H225<br>Skin Irrit. 2; H315<br>STOT SE 3; H336<br>Asp. Tox. 1; H304<br>Aquatic Acute 1; H400<br>Aquatic Chronic 1; H410<br>---<br>M-Factor (Acute aquatic toxicity): 1 | >= 0,1 - < 0,25 |

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 for at least 15 minutes while removing contaminated clothing and shoes.<br>Get medical attention.<br>Wash clothing before reuse.<br>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.<br>If easy to do, remove contact lens, if worn.<br>Get medical attention immediately. |
| If swallowed | : | If swallowed, DO NOT induce vomiting.<br>Get medical attention.<br>Rinse mouth thoroughly with water. |

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

| | | |
|---|---|---|
| Risks | : | Causes skin irritation.<br>Causes serious eye damage.<br>May cause respiratory irritation.<br>May cause drowsiness or dizziness.<br>May cause damage to organs through prolonged or repeated exposure. |

### 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 | : | High volume water jet |

### 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>Metal oxides |

### 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.<br>Soak up with inert absorbent material.<br>Suppress (knock down) gases/vapours/mists with a water spray jet.<br>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.<br>Clean up remaining materials from spill with suitable absorbent.<br>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.<br>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.<br>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.<br>Do not breathe spray.<br>Do not swallow.<br>Do not get in eyes.<br>Wash skin thoroughly after handling.<br>Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment<br>Keep container tightly closed.<br>Keep away from water.<br>Protect from moisture.<br>Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitisers.<br>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>Take precautionary measures against static discharges.<br>Take care to prevent spills, waste and minimize release to the environment.<br>Do not spray on an open flame or other ignition source. |
| 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. 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 tightly closed. 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:<br>Self-reactive substances and mixtures<br>Organic peroxides<br>Oxidizing agents<br>Flammable solids<br>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

Storage period : 24 Months

Recommended storage temperature : 10 - 30 °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 |
|---|---|---|---|---|
| Butane | 106-97-8 | AGW | 1.000 ppm<br>2.400 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 4;(II) | | | |
| Propane | 74-98-6 | AGW | 1.000 ppm<br>1.800 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 4;(II) | | | |
| Isobutane | 75-28-5 | AGW | 1.000 ppm<br>2.400 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 4;(II) | | | |
| Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane | Not Assigned | AGW | 700 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 2;(II) | | | |
| | Further information: Group exposure limit for hydrocarbon solvent mixtures | | | |
| 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 | | | |
| Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | Not Assigned | AGW | 700 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 2;(II) | | | |
| | Further information: Group exposure limit for hydrocarbon solvent mixtures | | | |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | 64742-49-0 | TWA | 500 ppm<br>2.085 mg/m3 | 2000/39/EC |
| | Further information: Indicative | | | |
| | | AGW | 500 ppm<br>2.100 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 1;(I) | | | |
| Hydrocarbons, C6, isoalkanes, <5% n-hexane | 64742-49-0 | AGW | 700 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 2;(II) | | | |
| | Further information: Group exposure limit for hydrocarbon solvent mixtures | | | |
| 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<br>884 mg/m3 | 2000/39/EC |
| | 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 | | | |
| Aluminium | 7429-90-5 | AGW (Inhalable fraction) | 10 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 2;(II) | | | |
| | Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child | | | |
| | | AGW (Alveolate fraction) | 1,25 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 2;(II) | | | |
| | Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child | | | |
| Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics | Not Assigned | AGW | 300 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 2;(II) | | | |
| | Further information: Group exposure limit for hydrocarbon solvent mixtures | | | |
| n-Hexane | 110-54-3 | TWA | 20 ppm<br>72 mg/m3 | 2006/15/EC |

| | | | | |
|---|---|---|---|---|
| | Further information: Indicative | | | |
| | | AGW | 50 ppm<br>180 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 8;(II) | | | |
| | Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child | | | |
| Toluene | 108-88-3 | TWA | 50 ppm<br>192 mg/m3 | 2006/15/EC |
| | Further information: Indicative, Identifies the possibility of significant uptake through the skin | | | |
| | | STEL | 100 ppm<br>384 mg/m3 | 2006/15/EC |
| | Further information: Indicative, Identifies the possibility of significant uptake through the skin | | | |
| | | AGW | 50 ppm<br>190 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 | | | |
| Cyclohexane | 110-82-7 | TWA | 200 ppm<br>700 mg/m3 | 2006/15/EC |
| | Further information: Indicative | | | |
| | | AGW | 200 ppm<br>700 mg/m3 | DE TRGS 900 |
| | Peak-limit: excursion factor (category): 4;(II) | | | |

**Occupational exposure limits of decomposition products**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|---|---|---|---|---|
| Butan-1-ol | 71-36-3 | AGW | 100 ppm<br>310 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 | | | |

**Biological occupational exposure limits**

| Substance name | CAS-No. | Control parameters | Sampling time | Basis |
|---|---|---|---|---|
| Xylene | 1330-20-7 | methylhippuric acid (all isomers): 2.000 mg/l<br>(Urine) | Immediately after exposure or after working hours | TRGS 903 |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | 64742-49-0 | heptan-2,5-dione: 250 µg/l<br>(Urine) | Immediately after exposure or after working hours | TRGS 903 |
| Ethylbenzene | 100-41-4 | mandelic acid + phenylglyoxylic acid: 250 mg/g creatinine<br>(Urine) | Immediately after exposure or after working hours | TRGS 903 |
| Aluminium | 7429-90-5 | Aluminium: 50 µg/g creatinine | In case of long-term exposure: | TRGS 903 |

| | | | | |
|---|---|---|---|---|
| | | (Urine) | after more than one shift | |
| n-Hexane | 110-54-3 | 2,5-hexanedione plus 4,5-dihydroxy-2-hexanone: 5 mg/l (Urine) | Immediately after exposure or after working hours | TRGS 903 |
| Toluene | 108-88-3 | toluene: 75 µg/l (Urine) | Immediately after exposure or after working hours | TRGS 903 |
| | | toluene: 600 µg/l (Blood) | End of shift | TRGS 903 |
| | | o-cresol: 1,5 mg/l (Urine) | In case of long-term exposure: after more than one shift, Immediately after exposure or after working hours | TRGS 903 |
| Cyclohexane | 110-82-7 | 1,2-cyclohexanediol: 150 mg/g creatinine (Urine) | In case of long-term exposure: after more than one shift, 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 |
|---|---|---|---|---|
| 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 |
| Zinc | Workers | Inhalation | Long-term systemic effects | 5 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 83 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 2,5 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 83 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 0,83 mg/kg bw/day |
| Aluminium | Workers | Inhalation | Long-term local effects | 3,72 mg/m3 |
| | Consumers | Ingestion | Long-term systemic effects | 3,95 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 |
| n-Hexane | Workers | Skin contact | Long-term systemic effects | 11 mg/kg bw/day |
| | Workers | Inhalation | Long-term systemic effects | 75 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 5,3 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 16 mg/m3 |
| | Consumers | Ingestion | Long-term systemic effects | 4 mg/kg bw/day |
| Toluene | Workers | Inhalation | Acute systemic effects | 384 mg/m3 |
| | Workers | Inhalation | Acute local effects | 384 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 384 mg/kg bw/day |
| | Workers | Inhalation | Long-term systemic effects | 192 mg/m3 |
| | Workers | Inhalation | Long-term local effects | 192 mg/m3 |
| | Consumers | Inhalation | Acute systemic effects | 226 mg/m3 |
| | Consumers | Inhalation | Acute local effects | 226 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 226 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 56,5 mg/m3 |
| | Consumers | Ingestion | Long-term systemic effects | 8,13 mg/kg bw/day |
| | Consumers | Inhalation | Long-term local effects | 56,5 mg/m3 |
| Cyclohexane | Workers | Inhalation | Acute systemic effects | 700 mg/m3 |

| | | | | |
|---|---|---|---|---|
| | Workers | Inhalation | Acute local effects | 700 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 2016 mg/kg bw/day |
| | Workers | Inhalation | Long-term systemic effects | 700 mg/m3 |
| | Workers | Inhalation | Long-term local effects | 700 mg/m3 |
| | Consumers | Inhalation | Acute systemic effects | 412 mg/m3 |
| | Consumers | Inhalation | Long-term systemic effects | 206 mg/m3 |
| | Consumers | Inhalation | Long-term local effects | 206 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 1186 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 59,4 mg/kg bw/day |
| Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | Workers | Inhalation | Long-term systemic effects | 2035 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 773 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 608 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 699 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 699 mg/kg bw/day |
| Hydrocarbons, C6, isoalkanes, <5% n-hexane | Workers | Inhalation | Long-term systemic effects | 5306 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 13964 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 1131 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 1377 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 1301 mg/kg bw/day |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | Workers | Inhalation | Long-term systemic effects | 2085 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 300 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 447 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 149 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 149 mg/kg bw/day |
| Hydrocarbons, C6- | Workers | Inhalation | Long-term systemic | 5306 mg/m3 |

| | | | | |
|---|---|---|---|---|
| C7, isoalkanes, cyclics, <5% n-hexane | | | effects | |
| | Workers | Inhalation | Long-term systemic effects | 5306 mg/m3 |
| | Consumers | Inhalation | Long-term systemic effects | 1131 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 1377 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 1301 mg/kg bw/day |
| Titanium tetrabutanolate | Workers | Inhalation | Long-term systemic effects | 127 mg/m3 |
| | Consumers | Ingestion | Long-term systemic effects | 3,75 mg/kg bw/day |
| | Consumers | Skin contact | Long-term systemic effects | 37,5 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 152 mg/m3 |

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

| Substance name | Environmental Compartment | Value |
|---|---|---|
| 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 |
| Zinc | Fresh water | 20,6 µg/l |
| | Marine water | 6,1 µg/l |
| | Sewage treatment plant | 100 µg/l |
| | Fresh water sediment | 117,8 mg/kg |
| | Marine sediment | 56,5 mg/kg |
| | Soil | 35,6 mg/kg |
| Aluminium | Sewage treatment plant | 20 mg/l |
| 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.) |
| Toluene | Fresh water | 0,68 mg/l |
| | Marine water | 0,68 mg/l |
| | Intermittent use/release | 0,68 mg/l |

| | | |
|---|---|---|
| | Sewage treatment plant | 13,61 mg/l |
| | Fresh water sediment | 16,39 mg/kg dry weight (d.w.) |
| | Marine sediment | 16,39 mg/kg dry weight (d.w.) |
| | Soil | 2,89 mg/kg dry weight (d.w.) |
| Cyclohexane | Fresh water | 0,207 mg/l |
| | Marine water | 0,207 mg/l |
| | Intermittent use/release | 0,207 mg/l |
| | Sewage treatment plant | 3,24 mg/l |
| | Fresh water sediment | 3,627 mg/kg dry weight (d.w.) |
| | Marine sediment | 3,627 mg/kg dry weight (d.w.) |
| | Soil | 2,99 mg/kg dry weight (d.w.) |
| Titanium tetrabutanolate | Fresh water | 0,08 mg/l |
| | Intermittent use/release | 2,25 mg/l |
| | Marine water | 0,008 mg/l |
| | Sewage treatment plant | 65 mg/l |
| | Fresh water sediment | 0,069 mg/kg dry weight (d.w.) |
| | Marine sediment | 0,007 mg/kg dry weight (d.w.) |
| | Soil | 0,017 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:
Chemical resistant goggles must be worn.
If splashes are likely to occur, wear:
Face-shield
Equipment should conform to DIN EN 166

Hand protection

Material : Fluorinated rubber
Break through time : > 240 min
Glove thickness : 0,4 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.
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.
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 |
| Propellant | : | Butane, Isobutane, Propane |
| Colour | : | grey |
| 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 | : | 9,4 %(V) |

| | | |
|---|---|---|
| Lower explosion limit / Lower flammability limit | : | 1,0 %(V) |
| Flash point | : | Not applicable |
| Auto-ignition temperature | : | 300 °C |
| Decomposition temperature | : | No data available |
| pH | : | substance/mixture is non-soluble (in water) |
| Viscosity | | |
| Viscosity, kinematic | : | Not applicable |
| Solubility(ies) | | |
| Water solubility | : | immiscible |
| Partition coefficient: n-octanol/water | : | Not applicable |
| Vapour pressure | : | Not applicable |
| Density | : | 0,757 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.
Vapours may form explosive mixture with air.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
Can react with strong oxidizing agents.
Hazardous decomposition products will be formed upon contact with water or humid air.

### 10.4 Conditions to avoid

Conditions to avoid : Exposure to moisture
Heat, flames and sparks.

### 10.5 Incompatible materials

Materials to avoid : Oxidizing agents
Water

### 10.6 Hazardous decomposition products

Contact with water or humid air : Butan-1-ol

## 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: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg

Method: Calculation method

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 3.350 mg/kg
Remarks: Based on data from similar materials

**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.

**Titanium tetrabutanolate:**

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): 3.430 mg/kg
Remarks: Based on data from similar materials

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 25,2 mg/l
Exposure time: 4 h

Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

**Zinc:**

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5,41 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

Acute oral toxicity : LD50 (Rat): > 5.840 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 23,3 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 2.800 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

Acute oral toxicity : LD50 (Rat): 16.750 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): 259,354 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 3.350 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

**Ethylbenzene:**

Acute oral toxicity : LD50 (Rat): 3.500 mg/kg

Acute inhalation toxicity : LC50 (Rat): 17,8 mg/l
Exposure time: 4 h

Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg

**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:**

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 4.951 mg/m3
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): >= 3.160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

**n-Hexane:**

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 31,86 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

**Toluene:**

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 28,1 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg

**Cyclohexane:**

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 19,07 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

**Skin corrosion/irritation**

Causes skin irritation.

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| Result | : | No skin irritation |
| Remarks | : | Based on data from similar materials |
| Assessment | : | Repeated exposure may cause skin dryness or cracking. |

**Xylene:**

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

**Titanium tetrabutanolate:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | Skin irritation |
| Remarks | : | Based on data from similar materials |

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| Result | : | Skin irritation |

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | Skin irritation |
| Remarks | : | Based on data from similar materials |

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| Result | : | Skin irritation |

**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | Mild skin irritation |
| Assessment | : | Repeated exposure may cause skin dryness or cracking. |

**n-Hexane:**

Species : Rabbit
Result : Skin irritation
Remarks : Based on data from similar materials

**Toluene:**

Species : Rabbit
Method : Directive 67/548/EEC, Annex V, B.4.
Result : Skin irritation

**Cyclohexane:**

Species : Rabbit
Result : Skin irritation

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

Species : Rabbit
Result : No eye irritation
Remarks : Based on data from similar materials

**Xylene:**

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

**Titanium tetrabutanolate:**

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irreversible effects on the eye
Remarks : Based on data from similar materials

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

Species : Rabbit
Result : No eye irritation

**Zinc:**

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

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

Species : Rabbit
Result : No eye irritation
Remarks : Based on data from similar materials

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No eye irritation |
| Remarks | : | Based on data from similar materials |

**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 405 |
| Result | : | No eye irritation |
| Remarks | : | Based on data from similar materials |

**n-Hexane:**

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

**Toluene:**

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

**Cyclohexane:**

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

**Respiratory or skin sensitisation**

**Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

Not classified based on available information.

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

| | | |
|---|---|---|
| Test Type | : | Local lymph node assay (LLNA) |
| Exposure routes | : | Skin contact |
| Species | : | Mouse |
| Result | : | negative |
| Remarks | : | Based on data from similar materials |

**Xylene:**

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

**Titanium tetrabutanolate:**

| | | |
|---|---|---|
| Test Type | : | Local lymph node assay (LLNA) |
| Exposure routes | : | Skin contact |
| Species | : | Mouse |
| Result | : | negative |
| Remarks | : | Based on data from similar materials |

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

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

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

| | | |
|---|---|---|
| Test Type | : | Maximisation Test |
| Exposure routes | : | Skin contact |
| Species | : | Guinea pig |
| Result | : | negative |
| Remarks | : | Based on data from similar materials |

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

| | | |
|---|---|---|
| Test Type | : | Local lymph node assay (LLNA) |
| Exposure routes | : | Skin contact |
| Species | : | Mouse |
| Result | : | negative |
| Remarks | : | Based on data from similar materials |

**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:**

| | | |
|---|---|---|
| Test Type | : | Maximisation Test |
| Exposure routes | : | Skin contact |
| Species | : | Guinea pig |
| Result | : | negative |
| Remarks | : | Based on data from similar materials |

**n-Hexane:**

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

**Toluene:**

| | | |
|---|---|---|
| Test Type | : | Maximisation Test |
| Exposure routes | : | Skin contact |
| Species | : | Guinea pig |
| Method | : | Directive 67/548/EEC, Annex V, B.6. |
| Result | : | negative |

**Cyclohexane:**

| | | |
|---|---|---|
| Test Type | : | Buehler Test |

Exposure routes : Skin contact
Species : Guinea pig
Result : negative

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test
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

**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

**Titanium tetrabutanolate:**

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

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

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

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

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

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: inhalation (vapour)
Method: OPPTS 870.5395
Result: negative

**Zinc:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: positive
Remarks: Based on data from similar materials

Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Result: negative
Remarks: Based on data from similar materials

Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

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

Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test
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

Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

**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

**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:**

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

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

Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

**n-Hexane:**

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

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

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

Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

**Toluene:**

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: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: Intraperitoneal injection
Result: negative

Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: inhalation (vapour)
Method: OECD Test Guideline 478
Result: negative

**Cyclohexane:**

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

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

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

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:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

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

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

**Xylene:**

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

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

| | | |
|---|---|---|
| Species | : | Mouse |
| Application Route | : | Skin contact |
| Exposure time | : | 102 weeks |

Result : negative

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

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

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

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

**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.

**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:**

Species : Rat
Application Route : inhalation (vapour)
Exposure time : 105 weeks
Result : negative
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

**n-Hexane:**

Species : Mouse
Application Route : inhalation (vapour)
Exposure time : 2 Years
Method : OECD Test Guideline 451
Result : negative
Remarks : Based on data from similar materials

**Toluene:**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 103 weeks |
| Result | : | negative |

| | | |
|---|---|---|
| Species | : | Mouse |
| Application Route | : | Skin contact |
| Exposure time | : | 24 Months |
| Result | : | negative |

**Reproductive toxicity**

Not classified based on available information.

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study<br>Species: Rat<br>Application Route: inhalation (vapour)<br>Result: negative<br>Remarks: Based on data from similar materials |
| Effects on foetal development | : | Test Type: Embryo-foetal development<br>Species: Rat<br>Application Route: inhalation (vapour)<br>Result: negative<br>Remarks: Based on data from similar materials |

**Xylene:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: One-generation reproduction toxicity study<br>Species: Rat<br>Application Route: inhalation (vapour)<br>Result: negative |
| Effects on foetal development | : | Test Type: Embryo-foetal development<br>Species: Rat<br>Application Route: inhalation (vapour)<br>Result: negative |

**Titanium tetrabutanolate:**

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

Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

Effects on fertility : Test Type: Two-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

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

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

Effects on foetal development : Test Type: Fertility/early embryonic development
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

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

**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

**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:**

Effects on fertility : Test Type: 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

**n-Hexane:**

Effects on fertility : Test Type: Fertility/early embryonic development
Application Route: inhalation (vapour)
Result: positive

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

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

**Toluene:**

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 (vapour)
Result: positive

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

**Cyclohexane:**

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

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

**STOT - single exposure**

May cause respiratory irritation.
May cause drowsiness or dizziness.

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

| | | |
|---|---|---|
| Assessment | : | May cause drowsiness or dizziness. |

**Xylene:**

| | | |
|---|---|---|
| Assessment | : | May cause respiratory irritation. |

**Titanium tetrabutanolate:**

| | | |
|---|---|---|
| Assessment | : | May cause respiratory irritation. |
| Assessment | : | May cause drowsiness or dizziness. |

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

| | | |
|---|---|---|
| Assessment | : | May cause drowsiness or dizziness. |

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

| | | |
|---|---|---|
| Assessment | : | May cause drowsiness or dizziness. |

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

| | | |
|---|---|---|
| Assessment | : | May cause drowsiness or dizziness. |

**n-Hexane:**

| | | |
|---|---|---|
| Assessment | : | May cause drowsiness or dizziness. |

**Toluene:**

| | | |
|---|---|---|
| Assessment | : | May cause drowsiness or dizziness. |

**Cyclohexane:**

| | | |
|---|---|---|
| Assessment | : | May cause drowsiness or dizziness. |

**STOT - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**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. |

**n-Hexane:**

| | | |
|---|---|---|
| Exposure routes | : | inhalation (vapour) |
| Target Organs | : | Central nervous system |
| Assessment | : | May cause damage to organs through prolonged or repeated exposure. |

**Toluene:**

| | | |
|---|---|---|
| Exposure routes | : | Inhalation |
| Target Organs | : | Central nervous system |
| Assessment | : | May cause damage to organs through prolonged or repeated exposure. |

**Repeated dose toxicity**

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

| | | |
|---|---|---|
| Species | : | Rat, male |
| NOAEL | : | 10,504 mg/l |
| LOAEL | : | 31,652 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 13 Weeks |
| Remarks | : | Based on data from similar materials |

**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 |

**Titanium tetrabutanolate:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 125 mg/kg |
| LOAEL | : | 500 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 13 Weeks |
| Remarks | : | Based on data from similar materials |

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 1,51 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 90 Days |
| Remarks | : | Based on data from similar materials |

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | > 20 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 13 Weeks |

**Zinc:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 31 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 Days |

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 12,47 mg/l |
| Application Route | : | Inhalation |
| Exposure time | : | 90 Days |
| Remarks | : | Based on data from similar materials |

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

| | | |
|---|---|---|
| Species | : | Rat, male |
| NOAEL | : | 10,504 mg/l |
| Application Route | : | inhalation (vapour) |
| 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 |

**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | >= 1.000 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 54 Days |
| Remarks | : | Based on data from similar materials |

**n-Hexane:**

| | | |
|---|---|---|
| Species | : | Mouse |
| LOAEL | : | 1,76 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 13 Weeks |

| | | |
|---|---|---|
| Species | : | Rat, male |
| NOAEL | : | 568 mg/kg |
| LOAEL | : | 3.973 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 Days |

**Toluene:**

| | | |
|---|---|---|
| Species | : | Rat |
| LOAEL | : | 1,875 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 6 Months |

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 625 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 13 Weeks |

**Cyclohexane:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 24,08 mg/l |
| Application Route | : | inhalation (vapour) |
| Exposure time | : | 90 Days |

**Aspiration toxicity**

Not classified based on available information.

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

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.

**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.

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**
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.

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**
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.

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**
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.

**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:**
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.

**n-Hexane:**
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.

**Toluene:**
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.

**Cyclohexane:**
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.

**Experience with human exposure**

**Components:**

**n-Hexane:**

Inhalation : Target Organs: Central nervous system
Symptoms: Central nervous system depression

**Toluene:**

Inhalation : Target Organs: Central nervous system
Symptoms: Neurological disorders

## SECTION 12: Ecological information

### 12.1 Toxicity

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 12 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction

Toxicity to algae/aquatic plants : EL50 (Selenastrum capricornutum (green algae)): > 10 - 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOELR (Selenastrum capricornutum (green algae)): 0,1 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

**Xylene:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 13,5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 202
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 |

**Titanium tetrabutanolate:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 : > 100 mg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : | > 100 mg/l<br>Exposure time: 48 h<br>Remarks: Based on data from similar materials |
| Toxicity to algae/aquatic plants | : | ErC50 : > 100 mg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials<br><br>NOEC : > 1 mg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials |
| Toxicity to microorganisms | : | EC10 : > 1 mg/l<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | > 1 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea)<br>Remarks: Based on data from similar materials |

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

| | | |
|---|---|---|
| Toxicity to fish | : | LL50 (Pimephales promelas (fathead minnow)): 8,2 mg/l<br>Exposure time: 96 h<br>Test substance: Water Accommodated Fraction |
| Toxicity to daphnia and other | : | EC50 (Daphnia magna (Water flea)): 4,5 mg/l |

| | | |
|---|---|---|
| aquatic invertebrates | | Exposure time: 48 h<br>Test substance: Water Accommodated Fraction<br>Method: OECD Test Guideline 202<br>Remarks: Based on data from similar materials |
| Toxicity to algae/aquatic plants | : | EL50 (Pseudokirchneriella subcapitata (green algae)): 3,1 mg/l<br>Exposure time: 72 h<br>Test substance: Water Accommodated Fraction<br>Method: OECD Test Guideline 201<br>Remarks: Based on data from similar materials<br><br>NOELR (Pseudokirchneriella subcapitata (green algae)): 0,5 mg/l<br>Exposure time: 72 h<br>Test substance: Water Accommodated Fraction<br>Method: OECD Test Guideline 201<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOELR: 2,6 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea)<br>Method: OECD Test Guideline 211 |

**Zinc:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Pimephales promelas (fathead minnow)): 0,78 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 1,83 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | IC50 (Pseudokirchneriella subcapitata (green algae)): 0,15 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| M-Factor (Acute aquatic toxicity) | : | 1 |
| Toxicity to microorganisms | : | EC50 : 5,2 mg/l<br>Exposure time: 3 h<br>Method: OECD Test Guideline 209 |
| Toxicity to fish (Chronic toxicity) | : | NOEC: 0,199 mg/l<br>Exposure time: 30 d<br>Species: Oncorhynchus mykiss (rainbow trout) |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 0,1 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea) |

M-Factor (Chronic aquatic toxicity) : 1

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 13,4 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EL50 (Selenastrum capricornutum (green algae)): > 10 - 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOELR (Selenastrum capricornutum (green algae)): 0,1 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,17 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 10 - 100 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 1 - 10 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EL50 (Selenastrum capricornutum (green algae)): > 10 - 100 mg/l
Exposure time: 72 h

Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOELR (Selenastrum capricornutum (green algae)): 0,1 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: > 0,1 - 1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

**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)

**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:**

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 1.000 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 1.000 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l

Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOELR (Pseudokirchneriella subcapitata (green algae)): 1.000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: > 1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

**n-Hexane:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2,5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3,88 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): 55 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEL (Pseudokirchneriella subcapitata (green algae)): 30 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

**Toluene:**

Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5,5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 3,78 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : NOEC (Skeletonema costatum (marine diatom)): 10 mg/l
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Nitrosomonas sp.): 84 mg/l
Exposure time: 24 h

| | | |
|---|---|---|
| Toxicity to fish (Chronic toxicity) | : | NOEC: 1,39 mg/l<br>Exposure time: 40 d<br>Species: Oncorhynchus kisutch (coho salmon) |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 0,74 mg/l<br>Exposure time: 7 d<br>Species: Ceriodaphnia dubia (water flea) |

**Cyclohexane:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Pimephales promelas (fathead minnow)): 4,53 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 0,9 mg/l<br>Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : | NOEC (Pseudokirchneriella subcapitata (green algae)): 0,94 mg/l<br>Exposure time: 72 h<br><br>EC50 (Pseudokirchneriella subcapitata (green algae)): 9,32 mg/l<br>Exposure time: 72 h |
| M-Factor (Acute aquatic toxicity) | : | 1 |

**Ecotoxicology Assessment**

| | | |
|---|---|---|
| Chronic aquatic toxicity | : | Very toxic to aquatic life with long lasting effects. |

### 12.2 Persistence and degradability

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 81 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301F |

**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 |

**Titanium tetrabutanolate:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Remarks: Based on data from similar materials |

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 77,05 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

**Ethylbenzene:**

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

**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 80 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

**n-Hexane:**

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

**Toluene:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 80 %
Exposure time: 20 d

**Cyclohexane:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 77 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

### 12.3 Bioaccumulative potential

**Components:**

**Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:**

Partition coefficient: n-octanol/water : log Pow: > 3 - < 4
Remarks: Based on data from similar materials

**Xylene:**

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

**Titanium tetrabutanolate:**

Partition coefficient: n-octanol/water : log Pow: 0,88

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

Partition coefficient: n-octanol/water : log Pow: 4
Remarks: Based on data from similar materials

**Zinc:**

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 177

**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:**

Partition coefficient: n-octanol/water : log Pow: > 4
Remarks: Based on data from similar materials

**Hydrocarbons, C6, isoalkanes, <5% n-hexane:**

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

**Ethylbenzene:**

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

**n-Hexane:**

Partition coefficient: n-octanol/water : log Pow: 4

**Toluene:**

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 90

Partition coefficient: n-octanol/water : log Pow: 2,73

**Cyclohexane:**

Partition coefficient: n-octanol/water : log Pow: 3,44

### 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
16 05 04, gases in pressure containers (including halons) containing hazardous substances
08 01 11, waste paint and varnish containing organic solvents or other hazardous substances

unused product
16 05 04, gases in pressure containers (including halons) containing hazardous substances
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<br>(Zinc, Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane) |
| **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 : yes

**ADR**

Environmentally hazardous : yes

**RID**

Environmentally hazardous : yes

**IMDG**

Marine pollutant : yes

### 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:
Number on list 75
If you intend to use this product as tattoo ink, please contact your vendor.

Zinc (Number on list 75)
Toluene (Number on list 48)
Cyclohexane (Number on list 57)

Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or not.

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

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 |
| E2 | ENVIRONMENTAL | 200 t | 500 t |

| | | | |
|---|---|---|---|
| | HAZARDS | | |
| 18 | Liquefied flammable gases (including LPG) and natural gas | 50 t | 200 t |
| 34 | Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d) | 2.500 t | 25.000 t |

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

TA Luft List (Germany) :
5.2.1: Total dust:
Not applicable
5.2.2: Inorganic substances in powdered form:
Not applicable
5.2.4: Inorganic substances in gaseous form:
Not applicable
5.2.5: Organic Substances:
Not applicable
5.2.7.1.1: Carcinogenic substance:
Not applicable
5.2.7.1.1: Quartz fine dust PM4:
Not applicable
5.2.7.1.1: Formaldehyde:
Not applicable
5.2.7.1.1: fibres:
Not applicable
5.2.7.1.2: Germ cell mutagens:
Not applicable
5.2.7.1.3: Substances toxic to reproduction:
Not applicable
5.2.7.2: Poorly degradable, easily enrichable and highly toxic organic substances:
Not applicable

Volatile organic compounds : Directive 2004/42/EC
VOC content in g/l: 640 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: 85 %, 640 g/l
Remarks: VOC content excluding water

**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**

| | | |
|---|---|---|
| H225 | : | Highly flammable liquid and vapour. |
| H226 | : | Flammable liquid and vapour. |
| H304 | : | May be fatal if swallowed and enters airways. |
| H312 | : | Harmful in contact with skin. |
| H315 | : | Causes skin irritation. |
| H318 | : | Causes serious eye damage. |
| H319 | : | Causes serious eye irritation. |
| H332 | : | Harmful if inhaled. |
| H335 | : | May cause respiratory irritation. |
| H336 | : | May cause drowsiness or dizziness. |
| H361d | : | Suspected of damaging the unborn child. |
| H361f | : | Suspected of damaging fertility. |
| H373 | : | May cause damage to organs through prolonged or repeated exposure. |
| H400 | : | Very toxic to aquatic life. |
| H410 | : | Very toxic to aquatic life with long lasting effects. |
| H411 | : | Toxic to aquatic life with long lasting effects. |
| H412 | : | Harmful to aquatic life with long lasting effects. |
| EUH066 | : | Repeated exposure may cause skin dryness or cracking. |

**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. Liq. | : | Flammable liquids |
| Repr. | : | Reproductive toxicity |
| Skin Irrit. | : | Skin irritation |
| 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 |
| 2006/15/EC | : | Europe. 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 |
| 2006/15/EC / TWA | : | Limit Value - eight hours |
| 2006/15/EC / 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; Regulation (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 | : | Internal technical data, data from raw material SDSs, OECD |

| | |
|---|---|
| compile the Safety Data Sheet | 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 Irrit. 2 | H315 | Calculation method |
| Eye Dam. 1 | H318 | Calculation method |
| STOT SE 3 | H335 | Calculation method |
| STOT SE 3 | H336 | Calculation method |
| STOT RE 2 | H373 | Calculation method |
| Aquatic Chronic 2 | H411 | Calculation method |

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.

DE / EN