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



SDS No. : 328032
V013.0

LOCTITE DURO-TAK 129A

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

**1.1. Product identifier**

LOCTITE DURO-TAK 129A
UFI: DDXG-AWQ9-P20V-THKA

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

Intended use:
Pressure Sensitive Adhesives

**1.3. Details of the supplier of the safety data sheet**

Henkel AG & Co. KGaA
Henkelstr. 67
40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com
For Safety Data Sheet updates please visit our website www.mysds.henkel.com or www.henkel-adhesives.com.

**1.4. Emergency telephone number**

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

## SECTION 2: Hazards identification

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

**Classification (CLP):**

| | |
|---|---|
| Flammable liquids | Category 2 |
| H225 Highly flammable liquid and vapour. | |
| Skin irritation | Category 2 |
| H315 Causes skin irritation. | |
| Serious eye irritation | Category 2 |
| H319 Causes serious eye irritation. | |
| Carcinogenicity | Category 2 |
| H351 Suspected of causing cancer. | |
| Specific target organ toxicity - single exposure | Category 3 |
| H336 May cause drowsiness or dizziness. | |
| Target organ: Central nervous system | |
| Chronic hazards to the aquatic environment | Category 2 |
| H411 Toxic to aquatic life with long lasting effects. | |

**2.2. Label elements**

**Label elements (CLP):**

**Hazard pictogram:**



**Contains** Propan-2-ol

Ethyl acetate

vinyl acetate

n-Heptane

**Signal word:** Danger

**Hazard statement:**
H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statement:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe vapors.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary statement: Response**
P308+P313 IF exposed or concerned: Get medical advice/attention.
P370+P378 In case of fire: Use CO2, dry chemical, or foam for extinction.

### 2.3. Other hazards

Solvents contained in the product evaporate during processing and their vapors can form explosive/highly inflammable air/vapor mixtures.
The solvent vapors are heavier than air and may collect in high concentrations at floor level.

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

This mixture does not contain any substances in a concentration ≥ the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

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

| Hazardous components<br>CAS No.<br>EC No<br>REACH-Reg. No. | Concentration | Classification | Specific Conc. Limits, M-factors and ATEs | Add. Information |
|---|---|---|---|---|
| Propan-2-ol<br>67-63-0<br>200-661-7<br>01-2119457558-25 | 10- < 20 % | Flam. Liq. 2, H225<br>Eye Irrit. 2, H319<br>STOT SE 3, H336 | | |
| Ethyl acetate<br>141-78-6<br>205-500-4<br>01-2119475103-46 | 10- < 20 % | Flam. Liq. 2, H225<br>STOT SE 3, H336<br>Eye Irrit. 2, H319 | | EU OEL |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0<br>01-2119475515-33 | 5- < 10 % | Asp. Tox. 1, H304<br>Skin Irrit. 2, H315<br>Flam. Liq. 2, H225<br>STOT SE 3, H336<br>Aquatic Chronic 2, H411 | inhalation:ATE = 23,31 mg/l;vapour | |
| n-Heptane<br>142-82-5<br>205-563-8<br>01-2119457603-38 | 5- < 10 % | Flam. Liq. 2, H225<br>Asp. Tox. 1, H304<br>Skin Irrit. 2, H315<br>STOT SE 3, H336<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 | M acute = 1<br>M chronic = 1 | EU OEL |
| vinyl acetate<br>108-05-4<br>203-545-4<br>01-2119471301-50 | 1- < 3 % | Aquatic Chronic 3, H412<br>Flam. Liq. 2, H225<br>Acute Tox. 4, Inhalation, H332<br>STOT SE 3, H335<br>Carc. 2, H351 | inhalation:ATE = 14,084 mg/l;vapour | EU OEL |
| Toluene<br>108-88-3<br>203-625-9<br>01-2119471310-51 | 1- < 3 % | Flam. Liq. 2, H225<br>Repr. 2, H361d<br>Asp. Tox. 1, H304<br>STOT RE 2, Inhalation, H373<br>Skin Irrit. 2, H315<br>STOT SE 3, H336<br>Aquatic Chronic 3, H412 | | EU OEL |
| cyclohexane<br>110-82-7<br>203-806-2<br>01-2119463273-41 | 0,1- < 1 % | Asp. Tox. 1, H304<br>STOT SE 3, H336<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410<br>Flam. Liq. 2, H225<br>Skin Irrit. 2, H315 | M acute = 1<br>M chronic = 1 | EU OEL |
| Pentane-2,4-dione<br>123-54-6<br>204-634-0<br>01-2119458968-15 | 0,1- < 1 % | Flam. Liq. 3, H226<br>Acute Tox. 4, Oral, H302<br>Acute Tox. 3, Dermal, H311<br>Acute Tox. 3, Inhalation, H331 | | |
| Aluminium tris(2,4-pentanedionato-O,O')<br>13963-57-0<br>237-741-6<br>01-2119832873-32 | 0,1- < 1 % | Acute Tox. 3, Dermal, H311<br>Acute Tox. 3, Inhalation, H331<br>Acute Tox. 2, Oral, H300<br>Eye Dam. 1, H318 | | |

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

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

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

Inhalation:
Move to fresh air, consult doctor if complaint persists.

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

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

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

**4.2. Most important symptoms and effects, both acute and delayed**
SKIN: Redness, inflammation.

EYE: Irritation, conjunctivitis.

Vapors may cause drowsiness and dizziness.

**4.3. Indication of any immediate medical attention and special treatment needed**
See section: Description of first aid measures

## SECTION 5: Firefighting measures

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

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

**5.2. Special hazards arising from the substance or mixture**
In case of fire toxic gases can be released.

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

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Wear protective equipment.
Avoid contact with skin and eyes.
Keep unprotected persons away.
Danger of slipping on spilled product.

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

**6.3. Methods and material for containment and cleaning up**
Remove with liquid-absorbing material (sand, peat, sawdust).
Dispose of contaminated material as waste according to Section 13.

**6.4. Reference to other sections**
See advice in section 8

## SECTION 7: Handling and storage

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

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

**7.2. Conditions for safe storage, including any incompatibilities**
Ensure good ventilation/extraction.
Close the container carefully after use and store it at a good ventilated place.
Store protected from heat influence.
Avoid strictly temperatures below + 10 °C and above + 50 °C.

**7.3. Specific end use(s)**
Pressure Sensitive Adhesives

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational Exposure Limits**

Valid for
Germany

| Ingredient [Regulated substance] | ppm | mg/m³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|---|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | | | Short Term Exposure Classification: | Category II: substances with a resorptive effect. | TRGS 900 |
| Propan-2-ol<br>67-63-0 | 200 | 500 | Exposure limit(s): | 2<br>If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |
| Ethyl acetate<br>141-78-6<br>[ETHYL ACETATE] | 200 | 734 | Time Weighted Average (TWA): | Indicative | ECTLV |
| Ethyl acetate<br>141-78-6<br>[ETHYL ACETATE] | 400 | 1.468 | Short Term Exposure Limit (STEL): | Indicative | ECTLV |
| Ethyl acetate<br>141-78-6 | | | Short Term Exposure Classification: | Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages. | TRGS 900 |
| Ethyl acetate<br>141-78-6 | 200 | 730 | Exposure limit(s): | 2<br>If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |
| Heptane<br>142-82-5<br>[N-HEPTANE] | 500 | 2.085 | Time Weighted Average (TWA): | Indicative | ECTLV |
| Heptane<br>142-82-5 | 500 | 2.100 | Exposure limit(s): | 1 | TRGS 900 |
| Heptane<br>142-82-5 | | | Short Term Exposure Classification: | Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages. | TRGS 900 |
| Vinyl acetate<br>108-05-4<br>[VINYL ACETATE] | 5 | 17,6 | Time Weighted Average (TWA): | Indicative | ECTLV |
| Vinyl acetate<br>108-05-4<br>[VINYL ACETATE] | 10 | 35,2 | Short Term Exposure Limit (STEL): | Indicative | ECTLV |
| Vinyl acetate<br>108-05-4 | | | Short Term Exposure Classification: | Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages. | TRGS 900 |
| Vinyl acetate<br>108-05-4 | 10 | 36 | Exposure limit(s): | 2<br>If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |
| Vinyl acetate<br>108-05-4 | | | Skin designation: | Can be absorbed through the skin. | TRGS 900 |
| Toluene<br>108-88-3 | 50 | 190 | Exposure limit(s): | 2<br>If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |

| | | | | | |
|---|---|---|---|---|---|
| Toluene<br>108-88-3 | | | Skin designation: | Can be absorbed through the skin. | TRGS 900 |
| Toluene<br>108-88-3 | | | Short Term Exposure Classification: | Category II: substances with a resorptive effect. | TRGS 900 |
| Toluene<br>108-88-3<br>[Toluene] | 50 | 192 | Time Weighted Average (TWA): | Indicative | ECTLV |
| Toluene<br>108-88-3<br>[Toluene] | 100 | 384 | Short Term Exposure Limit (STEL): | Indicative | ECTLV |
| Toluene<br>108-88-3<br>[Toluene] | | | Skin designation: | Can be absorbed through the skin. | ECTLV |
| Cyclohexane<br>110-82-7<br>[CYCLOHEXANE] | 200 | 700 | Time Weighted Average (TWA): | Indicative | ECTLV |
| Cyclohexane<br>110-82-7 | 200 | 700 | Exposure limit(s): | 4 | TRGS 900 |
| Cyclohexane<br>110-82-7 | | | Short Term Exposure Classification: | Category II: substances with a resorptive effect. | TRGS 900 |

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

| Name on list | Environmental Compartment | Exposure period | Value | | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | mg/l | ppm | mg/kg | others | |
| Propan-2-ol 67-63-0 | aqua (freshwater) | | 140,9 mg/l | | | | |
| Propan-2-ol 67-63-0 | aqua (marine water) | | 140,9 mg/l | | | | |
| Propan-2-ol 67-63-0 | sediment (freshwater) | | | | 552 mg/kg | | |
| Propan-2-ol 67-63-0 | sediment (marine water) | | | | 552 mg/kg | | |
| Propan-2-ol 67-63-0 | Soil | | | | 28 mg/kg | | |
| Propan-2-ol 67-63-0 | aqua (intermittent releases) | | 140,9 mg/l | | | | |
| Propan-2-ol 67-63-0 | sewage treatment plant (STP) | | 2251 mg/l | | | | |
| Propan-2-ol 67-63-0 | oral | | | | 160 mg/kg | | |
| Ethyl acetate 141-78-6 | aqua (freshwater) | | 0,24 mg/l | | | | |
| Ethyl acetate 141-78-6 | aqua (marine water) | | 0,024 mg/l | | | | |
| Ethyl acetate 141-78-6 | aqua (intermittent releases) | | 1,65 mg/l | | | | |
| Ethyl acetate 141-78-6 | sewage treatment plant (STP) | | 650 mg/l | | | | |
| Ethyl acetate 141-78-6 | sediment (freshwater) | | | | 1,15 mg/kg | | |
| Ethyl acetate 141-78-6 | sediment (marine water) | | | | 0,115 mg/kg | | |
| Ethyl acetate 141-78-6 | Air | | | | | | no hazard identified |
| Ethyl acetate 141-78-6 | Soil | | | | 0,148 mg/kg | | |
| Ethyl acetate 141-78-6 | oral | | | | 200 mg/kg | | |
| n-Heptane 142-82-5 | Air | | | | | | no hazard identified |
| vinyl acetate 108-05-4 | aqua (freshwater) | | 0,016 mg/l | | | | |
| vinyl acetate 108-05-4 | aqua (marine water) | | 0,0016 mg/l | | | | |
| vinyl acetate 108-05-4 | aqua (intermittent releases) | | 0,126 mg/l | | | | |
| vinyl acetate 108-05-4 | sediment (freshwater) | | | | 0,067 mg/kg | | |
| vinyl acetate 108-05-4 | sediment (marine water) | | | | 0,0067 mg/kg | | |
| vinyl acetate 108-05-4 | Soil | | | | 0,0035 mg/kg | | |
| vinyl acetate 108-05-4 | sewage treatment plant (STP) | | 6 mg/l | | | | |
| vinyl acetate 108-05-4 | Air | | | | | | no hazard identified |
| vinyl acetate 108-05-4 | Predator | | | | | | no potential for bioaccumulation |
| Toluene 108-88-3 | aqua (freshwater) | | 0,68 mg/l | | | | |
| Toluene 108-88-3 | sediment (freshwater) | | | | 16,39 mg/kg | | |
| Toluene 108-88-3 | sediment (marine water) | | | | 16,39 mg/kg | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Toluene<br>108-88-3 | Soil | | | | 2,89 mg/kg | | |
| Toluene<br>108-88-3 | sewage treatment plant (STP) | | 13,61 mg/l | | | | |
| Toluene<br>108-88-3 | aqua (marine water) | | 0,68 mg/l | | | | |
| Toluene<br>108-88-3 | aqua (intermittent releases) | | 0,68 mg/l | | | | |
| cyclohexane<br>110-82-7 | aqua (freshwater) | | 0,207 mg/l | | | | |
| cyclohexane<br>110-82-7 | aqua (marine water) | | 0,207 mg/l | | | | |
| cyclohexane<br>110-82-7 | aqua (intermittent releases) | | 0,207 mg/l | | | | |
| cyclohexane<br>110-82-7 | sediment (freshwater) | | | | 16,68 mg/kg | | |
| cyclohexane<br>110-82-7 | sediment (marine water) | | | | 16,68 mg/kg | | |
| cyclohexane<br>110-82-7 | Soil | | | | 3,38 mg/kg | | |
| cyclohexane<br>110-82-7 | sewage treatment plant (STP) | | 3,24 mg/l | | | | |
| cyclohexane<br>110-82-7 | Air | | | | | | |
| cyclohexane<br>110-82-7 | Predator | | | | | | no potential for bioaccumulation |
| Pentane-2,4-dione<br>123-54-6 | aqua (freshwater) | | 0,2 mg/l | | | | |
| Pentane-2,4-dione<br>123-54-6 | aqua (marine water) | | 0,02 mg/l | | | | |
| Pentane-2,4-dione<br>123-54-6 | sediment (freshwater) | | | | 1,909 mg/kg | | |
| Pentane-2,4-dione<br>123-54-6 | sediment (marine water) | | | | 0,191 mg/kg | | |
| Pentane-2,4-dione<br>123-54-6 | Soil | | | | 0,193 mg/kg | | |
| Pentane-2,4-dione<br>123-54-6 | Freshwater - intermittent | | 0,26 mg/l | | | | |
| Pentane-2,4-dione<br>123-54-6 | sewage treatment plant (STP) | | 1,32 mg/l | | | | |

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

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|---|---|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | Workers | dermal | Long term exposure - systemic effects | | 888 mg/kg | |
| Propan-2-ol<br>67-63-0 | Workers | inhalation | Long term exposure - systemic effects | | 500 mg/m3 | |
| Propan-2-ol<br>67-63-0 | General population | dermal | Long term exposure - systemic effects | | 319 mg/kg | |
| Propan-2-ol<br>67-63-0 | General population | inhalation | Long term exposure - systemic effects | | 89 mg/m3 | |
| Propan-2-ol<br>67-63-0 | General population | oral | Long term exposure - systemic effects | | 26 mg/kg | |
| Ethyl acetate<br>141-78-6 | Workers | inhalation | Acute/short term exposure - systemic effects | | 1468 mg/m3 | no hazard identified |
| Ethyl acetate<br>141-78-6 | Workers | inhalation | Acute/short term exposure - local effects | | 1468 mg/m3 | no hazard identified |
| Ethyl acetate<br>141-78-6 | Workers | dermal | Long term exposure - systemic effects | | 63 mg/kg | no hazard identified |
| Ethyl acetate<br>141-78-6 | Workers | inhalation | Long term exposure - systemic effects | | 734 mg/m3 | no hazard identified |
| Ethyl acetate<br>141-78-6 | Workers | inhalation | Long term exposure - local effects | | 734 mg/m3 | no hazard identified |
| Ethyl acetate<br>141-78-6 | General population | Inhalation | Acute/short term exposure - systemic effects | | 734 mg/m3 | no hazard identified |
| Ethyl acetate<br>141-78-6 | General population | inhalation | Acute/short term exposure - local effects | | 734 mg/m3 | no hazard identified |
| Ethyl acetate<br>141-78-6 | General population | dermal | Long term exposure - systemic effects | | 37 mg/kg | no hazard identified |
| Ethyl acetate<br>141-78-6 | General population | inhalation | Long term exposure - systemic effects | | 367 mg/m3 | no hazard identified |
| Ethyl acetate<br>141-78-6 | General population | oral | Long term exposure - systemic effects | | 4,5 mg/kg | no hazard identified |
| Ethyl acetate<br>141-78-6 | General population | inhalation | Long term exposure - local effects | | 367 mg/m3 | no hazard identified |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | Workers | inhalation | Long term exposure - systemic effects | | 2085 mg/m3 | |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | Workers | dermal | Long term exposure - systemic effects | | 300 mg/kg | |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | General population | oral | Long term exposure - systemic effects | | 149 mg/kg | |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | General population | dermal | Long term exposure - systemic effects | | 149 mg/kg | |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | General population | inhalation | Long term exposure - systemic effects | | 447 mg/m3 | |
| n-Heptane<br>142-82-5 | Workers | dermal | Long term exposure - systemic effects | | 300 mg/kg | no hazard identified |
| n-Heptane<br>142-82-5 | Workers | Inhalation | Long term exposure - | | 2085 mg/m3 | no hazard identified |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | systemic effects | | | |
| n-Heptane<br>142-82-5 | General population | dermal | Long term exposure - systemic effects | | 149 mg/kg | no hazard identified |
| n-Heptane<br>142-82-5 | General population | Inhalation | Long term exposure - systemic effects | | 447 mg/m3 | no hazard identified |
| n-Heptane<br>142-82-5 | General population | oral | Long term exposure - systemic effects | | 149 mg/kg | no hazard identified |
| vinyl acetate<br>108-05-4 | Workers | inhalation | Acute/short term exposure - systemic effects | | 35,2 mg/m3 | no hazard identified |
| vinyl acetate<br>108-05-4 | Workers | inhalation | Acute/short term exposure - local effects | | 35,2 mg/m3 | no hazard identified |
| vinyl acetate<br>108-05-4 | Workers | dermal | Long term exposure - systemic effects | | 0,42 mg/kg | no hazard identified |
| vinyl acetate<br>108-05-4 | Workers | inhalation | Long term exposure - systemic effects | | 17,6 mg/m3 | no hazard identified |
| vinyl acetate<br>108-05-4 | Workers | inhalation | Long term exposure - local effects | | 17,6 mg/m3 | no hazard identified |
| Toluene<br>108-88-3 | Workers | Inhalation | Acute/short term exposure - local effects | | 384 mg/m3 | |
| Toluene<br>108-88-3 | Workers | Inhalation | Acute/short term exposure - systemic effects | | 384 mg/m3 | |
| Toluene<br>108-88-3 | Workers | Inhalation | Long term exposure - local effects | | 192 mg/m3 | |
| Toluene<br>108-88-3 | Workers | Inhalation | Long term exposure - systemic effects | | 192 mg/m3 | |
| Toluene<br>108-88-3 | Workers | dermal | Long term exposure - systemic effects | | 384 mg/kg | |
| Toluene<br>108-88-3 | General population | Inhalation | Acute/short term exposure - local effects | | 226 mg/m3 | |
| Toluene<br>108-88-3 | General population | Inhalation | Acute/short term exposure - systemic effects | | 226 mg/m3 | |
| Toluene<br>108-88-3 | General population | Inhalation | Long term exposure - systemic effects | | 56,5 mg/m3 | |
| Toluene<br>108-88-3 | General population | dermal | Long term exposure - systemic effects | | 226 mg/kg | |
| Toluene<br>108-88-3 | General population | oral | Long term exposure - systemic effects | | 8,13 mg/kg | |
| Toluene<br>108-88-3 | General population | inhalation | Long term exposure - local effects | | 56,5 mg/m3 | |
| cyclohexane<br>110-82-7 | Workers | inhalation | Acute/short term exposure - local effects | | 700 mg/m3 | no potential for bioaccumulation |
| cyclohexane<br>110-82-7 | Workers | inhalation | Acute/short term exposure - systemic effects | | 700 mg/m3 | no potential for bioaccumulation |
| cyclohexane<br>110-82-7 | Workers | inhalation | Long term exposure - systemic effects | | 700 mg/m3 | no potential for bioaccumulation |
| cyclohexane<br>110-82-7 | Workers | inhalation | Long term exposure - local effects | | 700 mg/m3 | no potential for bioaccumulation |
| cyclohexane<br>110-82-7 | Workers | dermal | Long term exposure - systemic effects | | 2016 mg/kg | no potential for bioaccumulation |

| | | | | | | |
|---|---|---|---|---|---|---|
| cyclohexane<br>110-82-7 | General population | inhalation | Acute/short term exposure - systemic effects | | 412 mg/m3 | no potential for bioaccumulation |
| cyclohexane<br>110-82-7 | General population | inhalation | Acute/short term exposure - local effects | | 412 mg/m3 | no potential for bioaccumulation |
| cyclohexane<br>110-82-7 | General population | dermal | Long term exposure - systemic effects | | 1186 mg/kg | no potential for bioaccumulation |
| cyclohexane<br>110-82-7 | General population | oral | Long term exposure - systemic effects | | 59,4 mg/kg | no potential for bioaccumulation |
| cyclohexane<br>110-82-7 | General population | inhalation | Long term exposure - systemic effects | | 206 mg/m3 | no potential for bioaccumulation |
| cyclohexane<br>110-82-7 | General population | inhalation | Long term exposure - local effects | | 206 mg/m3 | no potential for bioaccumulation |
| Pentane-2,4-dione<br>123-54-6 | Workers | inhalation | Long term exposure - systemic effects | | 84 mg/m3 | |
| Pentane-2,4-dione<br>123-54-6 | Workers | inhalation | Acute/short term exposure - systemic effects | | | |
| Pentane-2,4-dione<br>123-54-6 | Workers | inhalation | Long term exposure - local effects | | | |
| Pentane-2,4-dione<br>123-54-6 | Workers | inhalation | Acute/short term exposure - local effects | | | |
| Pentane-2,4-dione<br>123-54-6 | Workers | dermal | Long term exposure - systemic effects | | 12 mg/kg | |
| Pentane-2,4-dione<br>123-54-6 | Workers | dermal | Acute/short term exposure - systemic effects | | | |
| Pentane-2,4-dione<br>123-54-6 | Workers | dermal | Acute/short term exposure - local effects | | | |
| Pentane-2,4-dione<br>123-54-6 | Workers | dermal | Long term exposure - local effects | | | |
| Pentane-2,4-dione<br>123-54-6 | General population | inhalation | Acute/short term exposure - systemic effects | | | |
| Pentane-2,4-dione<br>123-54-6 | General population | inhalation | Acute/short term exposure - local effects | | | |
| Pentane-2,4-dione<br>123-54-6 | General population | inhalation | Long term exposure - local effects | | | |
| Pentane-2,4-dione<br>123-54-6 | General population | inhalation | Long term exposure - systemic effects | | | |
| Pentane-2,4-dione<br>123-54-6 | General population | dermal | Acute/short term exposure - systemic effects | | | |
| Pentane-2,4-dione<br>123-54-6 | General population | dermal | Acute/short term exposure - local effects | | | |
| Pentane-2,4-dione<br>123-54-6 | General population | dermal | Long term exposure - local effects | | | |
| Pentane-2,4-dione<br>123-54-6 | General population | dermal | Long term exposure - systemic effects | | | |
| Pentane-2,4-dione<br>123-54-6 | General population | oral | Long term exposure - systemic effects | | 7 mg/kg | |
| Pentane-2,4-dione<br>123-54-6 | General population | oral | Acute/short term exposure - systemic effects | | | |

**Biological Exposure Indices:**

| Ingredient [Regulated substance] | Parameters | Biological specimen | Sampling time | Conc. | Basis of biol. exposure index | Remark | Additional Information |
|---|---|---|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | acetone | Blood | Sampling time: End of shift. | 25 mg/l | DE BGW | | |
| Propan-2-ol<br>67-63-0<br>[2-PROPANOL] | acetone | Urine | Sampling time: End of shift. | 25 mg/l | DE BGW | | |
| Heptane<br>142-82-5<br>[n-Heptane] | Heptan-2,5-dione | Urine | Sampling time: End of shift. | 250 µg/l | DE BGW | | |
| Toluene<br>108-88-3<br>[Toluene] | Toluene | Urine | Sampling time: End of shift. | 75 µg/l | DE BGW | | |
| Toluene<br>108-88-3<br>[Toluene] | Toluene | Blood | Sampling time period is immediately after exposure. | 600 µg/l | DE BGW | | |
| Toluene<br>108-88-3<br>[Toluene] | o-Cresol, with hydrolysis | Urine | Sampling time: End of shift. | 1,5 mg/l | DE BGW | | |
| Cyclohexane<br>110-82-7<br>[Cyclohexane] | 1,2-Cyclohexanediol, with hydrolysis | Creatinine in urine | Sampling time: End of work week. | 150 mg/g | DE BGW | | |

**8.2. Exposure controls:**

Engineering controls:
Use only in well ventilated areas.

Respiratory protection:
In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).
This recommendation should be matched to local conditions.

Hand protection:
Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; >= 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; >= 0.7 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Goggles which can be tightly sealed.
Protective eye equipment should conform to EN166.

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

Advices to personal protection equipment:
Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway), or equivalent.
The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.
Personal protective equipment should conform to the relevant EN standard.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| Delivery form | liquid |
| Colour | Clear |
| Odor | Solvent |
| Physical state | liquid |
| Melting point | Not applicable, Product is a liquid |
| Initial boiling point | 77 °C (170.6 °F)no method / method unknown |
| Flammability | Currently under determination |
| Explosive limits | |
| upper | 0,84 %(V); |
| Flash point | -8 °C (17.6 °F); Blendpro - calculated value |
| Auto-ignition temperature | 220 °C (428 °F) Value of most critical component |
| Decomposition temperature | Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use |
| pH | Not applicable, Product is non-soluble (in water). |
| Viscosity (kinematic) (40 °C (104 °F); ) | 2.000 - 6.000 mm2/s ;. viscosity kinematic, 40°C |
| Viscosity, dynamic (Brookfield; Instrument: RVT; 25 °C (77 °F); speed of rotation: 10 min-1; Spindle No: 21) | 1.750 - 3.500 mPa.s A147; A148; Viscosity Brookfield |
| Solubility (qualitative) (Solvent: Water) | Insoluble |
| Solubility (qualitative) (20 °C (68 °F); Solvent: Water) | Not miscible |
| Partition coefficient: n-octanol/water | Not applicable<br>Mixture |
| Vapour pressure (20 °C (68 °F)) | 97 mbar;Blendpro - calculated value |
| Vapour pressure (50 °C (122 °F)) | 387 mbar;Blendpro - calculated value |
| Density (20 °C (68 °F)) | 0,91 g/cm3 no method / method unknown |
| Relative vapour density: (20 °C) | Heavier than air |
| Particle characteristics | Not applicable<br>Product is a liquid |

**9.2. Other information**

Other information not applicable for this product

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
Oxidizers.

**10.2. Chemical stability**
Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**
See section reactivity

**10.4. Conditions to avoid**
Heat, flames, sparks and other sources of ignition.

**10.5. Incompatible materials**
See section reactivity.

**10.6. Hazardous decomposition products**
No decomposition if used according to specifications.

## SECTION 11: Toxicological information

**General toxicological information:**
An allergic reaction cannot be excluded after repeated skin contact.

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

**Acute oral toxicity:**

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

Based on available data, the classification criteria are not met.

| Hazardous substances<br>CAS-No. | Value type | Value | Species | Method |
|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | LD50 | 5.840 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| Ethyl acetate<br>141-78-6 | LD50 | 6.100 mg/kg | rat | not specified |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | LD50 | > 5.840 mg/kg | rat | not specified |
| n-Heptane<br>142-82-5 | LD50 | > 5.000 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| vinyl acetate<br>108-05-4 | LD50 | 3.470 mg/kg | rat | not specified |
| Toluene<br>108-88-3 | LD50 | 5.580 mg/kg | rat | EU Method B.1 (Acute Toxicity (Oral)) |
| cyclohexane<br>110-82-7 | LD50 | > 5.000 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| Pentane-2,4-dione<br>123-54-6 | LD50 | 570 mg/kg | rat | not specified |
| Aluminium tris(2,4-pentanedionato-O,O')<br>13963-57-0 | LD50 | 48,7 mg/kg | rat | not specified |

**Acute dermal toxicity:**

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

Based on available data, the classification criteria are not met.

| Hazardous substances<br>CAS-No. | Value type | Value | Species | Method |
|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | LD50 | 12.870 mg/kg | rabbit | OECD Guideline 402 (Acute Dermal Toxicity) |
| Ethyl acetate<br>141-78-6 | LD50 | > 20.000 mg/kg | rabbit | Draize Test |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | LD50 | > 2.800 mg/kg | rat | other guideline: |
| n-Heptane<br>142-82-5 | LD50 | > 2.000 mg/kg | rabbit | equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity) |
| vinyl acetate<br>108-05-4 | LD50 | 7.440 mg/kg | rabbit | not specified |
| Toluene<br>108-88-3 | LD50 | > 5.000 mg/kg | rabbit | not specified |
| cyclohexane<br>110-82-7 | LD50 | > 2.000 mg/kg | rabbit | equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity) |
| Pentane-2,4-dione<br>123-54-6 | LD50 | 790 mg/kg | rabbit | not specified |
| Aluminium tris(2,4-pentanedionato-O,O')<br>13963-57-0 | LD50 | 790 mg/kg | rabbit | not specified |

**Acute inhalative toxicity:**

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

Based on available data, the classification criteria are not met.

| Hazardous substances<br>CAS-No. | Value type | Value | Test atmosphere | Exposure time | Species | Method |
|---|---|---|---|---|---|---|
| Ethyl acetate<br>141-78-6 | LC50 | 57,7 mg/l | vapour | 4 h | rat | not specified |
| Ethyl acetate<br>141-78-6 | LC50 | > 22,5 mg/l | vapour | 6 h | rat | other guideline: |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | LC50 | > 23,3 mg/l | vapour | 4 h | rat | equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity) |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | Acute toxicity estimate (ATE) | 23,31 mg/l | vapour | | | Expert judgement |
| n-Heptane<br>142-82-5 | LC50 | > 29,29 mg/l | vapour | 4 h | rat | equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity) |
| vinyl acetate<br>108-05-4 | Acute toxicity estimate (ATE) | 14,084 mg/l | vapour | | | Expert judgement |
| vinyl acetate<br>108-05-4 | LC50 | 4000 ppm | vapour | 4 h | rat | not specified |
| Toluene<br>108-88-3 | LC50 | 28,1 mg/l | vapour | 4 h | rat | equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity) |
| cyclohexane<br>110-82-7 | LC50 | > 32,880 mg/l | vapour | 4 h | rat | equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity) |
| Pentane-2,4-dione<br>123-54-6 | LC50 | 5,1 mg/l | vapour | 4 h | rat | equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity) |
| Aluminium tris(2,4-pentanedionato-O,O')<br>13963-57-0 | LC50 | 5,1 mg/l | vapour | 4 h | rat | equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity) |

**Skin corrosion/irritation:**

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

| Hazardous substances<br>CAS-No. | Result | Exposure time | Species | Method |
|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | not irritating | 4 h | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Ethyl acetate<br>141-78-6 | slightly irritating | 24 h | rabbit | equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | irritating | 4 h | rabbit | equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| n-Heptane<br>142-82-5 | irritating | | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| vinyl acetate<br>108-05-4 | not irritating | 4 h | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Toluene<br>108-88-3 | irritating | 4 h | rabbit | EU Method B.4 (Acute Toxicity: Dermal Irritation / Corrosion) |
| cyclohexane<br>110-82-7 | irritating | | rabbit | Weight of evidence |
| Pentane-2,4-dione<br>123-54-6 | slightly irritating | 4 h | rabbit | not specified |

**Serious eye damage/irritation:**

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

| Hazardous substances<br>CAS-No. | Result | Exposure time | Species | Method |
|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | Category 2A (irritating to eyes) | | rabbit | equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Ethyl acetate<br>141-78-6 | slightly irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | not irritating | | rabbit | FDA Guideline |
| n-Heptane<br>142-82-5 | not irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| vinyl acetate<br>108-05-4 | not irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Toluene<br>108-88-3 | slightly irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| cyclohexane<br>110-82-7 | slightly irritating | | rabbit | equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Pentane-2,4-dione<br>123-54-6 | slightly irritating | | rabbit | not specified |

**Respiratory or skin sensitization:**

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

Based on available data, the classification criteria are not met.

| Hazardous substances<br>CAS-No. | Result | Test type | Species | Method |
|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | not sensitising | Buehler test | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| Ethyl acetate<br>141-78-6 | not sensitising | Guinea pig maximisation test | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | not sensitising | Guinea pig maximisation test | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| n-Heptane<br>142-82-5 | not sensitising | Guinea pig maximisation test | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| vinyl acetate<br>108-05-4 | not sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| Toluene<br>108-88-3 | not sensitising | Guinea pig maximisation test | guinea pig | EU Method B.6 (Skin Sensitisation) |
| cyclohexane<br>110-82-7 | not sensitising | Buehler test | guinea pig | equivalent or similar to OECD Guideline 406 (Skin Sensitisation) |
| Pentane-2,4-dione<br>123-54-6 | not sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |

**Germ cell mutagenicity:**

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

Based on available data, the classification criteria are not met.

| Hazardous substances CAS-No. | Result | Type of study / Route of administration | Metabolic activation / Exposure time | Species | Method |
|---|---|---|---|---|---|
| Propan-2-ol 67-63-0 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Propan-2-ol 67-63-0 | negative | mammalian cell gene mutation assay | with and without | | equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Ethyl acetate 141-78-6 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Ethyl acetate 141-78-6 | negative | in vitro mammalian chromosome aberration test | with and without | | equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| n-Heptane 142-82-5 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| n-Heptane 142-82-5 | negative | in vitro mammalian chromosome aberration test | not applicable | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| vinyl acetate 108-05-4 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Toluene 108-88-3 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | EU Method B.13/14 (Mutagenicity) |
| Toluene 108-88-3 | negative | mammalian cell gene mutation assay | with and without | | equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| cyclohexane 110-82-7 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| cyclohexane 110-82-7 | negative | mammalian cell gene mutation assay | with and without | | equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Pentane-2,4-dione 123-54-6 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Pentane-2,4-dione 123-54-6 | negative | in vitro mammalian chromosome aberration test | with | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| Pentane-2,4-dione 123-54-6 | positive | in vitro mammalian chromosome aberration test | without | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| Pentane-2,4-dione 123-54-6 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Pentane-2,4-dione 123-54-6 | positive | sister chromatid exchange assay in mammalian cells | with and without | | OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells) |

**Carcinogenicity**

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

| Hazardous components CAS-No. | Result | Route of application | Exposure time / Frequency of treatment | Species | Sex | Method |
|---|---|---|---|---|---|---|
| Propan-2-ol 67-63-0 | | inhalation: vapour | 104 w 6 h/d, 5 d/w | rat | male/female | OECD Guideline 451 (Carcinogenicity Studies) |
| vinyl acetate 108-05-4 | carcinogenic | inhalation: vapour | 104 w 6 h/d, 5 d/w | rat | male/female | OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |
| Toluene 108-88-3 | not carcinogenic | inhalation: vapour | 103 w 6.5 h/d, 5 d/w | rat | male/female | equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |

**Reproductive toxicity:**

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

Based on available data, the classification criteria are not met.

| Hazardous substances CAS-No. | Result / Value | Test type | Route of application | Species | Method |
|---|---|---|---|---|---|
| Propan-2-ol 67-63-0 | NOAEL P 853 mg/kg | One generation study | oral: drinking water | rat | equivalent or similar to OECD Guideline 415 (One-Generation Reproduction Toxicity Study) |
| Propan-2-ol 67-63-0 | NOAEL P 500 mg/kg<br>NOAEL F1 1.000 mg/kg | Two generation study | oral: gavage | rat | equivalent or similar to OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |
| Ethyl acetate 141-78-6 | NOAEL P 1500 ppm | other: | inhalation | rat | other guideline: |
| n-Heptane 142-82-5 | NOAEL P 3000 ppm<br>NOAEL F1 3000 ppm | | inhalation: vapour | rat | OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |
| vinyl acetate 108-05-4 | NOAEL P 1000 ppm | | oral: drinking water | rat | OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |
| Toluene 108-88-3 | NOAEL P 7500 mg/m3<br>NOAEL F1 1875 mg/m3<br>NOAEL F2 1875 mg/m3 | Two generation study | inhalation: vapour | rat | OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |
| Toluene 108-88-3 | NOAEL P 2261 mg/m3<br>NOAEL F1 2261 mg/m3 | fertility | inhalation: vapour | rat | not specified |
| cyclohexane 110-82-7 | NOAEL F1 7000 ppm | two-generation study | inhalation: vapour | rat | equivalent or similar to OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |

**STOT-single exposure:**

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

| Hazardous substances CAS-No. | Assessment | Route of exposure | Target Organs | Remarks |
|---|---|---|---|---|
| Propan-2-ol 67-63-0 | May cause drowsiness or dizziness. | | | |
| Ethyl acetate 141-78-6 | May cause drowsiness or dizziness. | | | |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics 64742-49-0 | May cause drowsiness or dizziness. | | | |
| n-Heptane 142-82-5 | May cause drowsiness or dizziness. | | | |
| vinyl acetate 108-05-4 | May cause respiratory irritation. | | | |
| cyclohexane 110-82-7 | Category 3 with narcotic effects. | | | |

**STOT-repeated exposure:**

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

Based on available data, the classification criteria are not met.

| Hazardous substances CAS-No. | Result / Value | Route of application | Exposure time / Frequency of treatment | Species | Method |
|---|---|---|---|---|---|
| Propan-2-ol 67-63-0 | | inhalation: vapour | 104 w 6 h/d, 5 d/w | rat | OECD Guideline 451 (Carcinogenicity Studies) |
| Ethyl acetate 141-78-6 | NOAEL 900 mg/kg | oral: gavage | 90 d daily | rat | EPA OTS 795.2600 (Subchronic Oral Toxicity Test) |
| n-Heptane 142-82-5 | | inhalation: vapour | 16 weeks 12 hours/day, 7 days/week | rat | |
| vinyl acetate 108-05-4 | NOAEL 5000 ppm | oral: drinking water | 3 m daily | rat | OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |
| Toluene 108-88-3 | NOAEL 625 mg/kg | oral: gavage | 13 w daily, 5 d/w | rat | EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents) |
| Toluene 108-88-3 | NOAEL 1131 mg/m3 | inhalation: vapour | 24 m 6.5 h/d, 5 d/w | rat | equivalent or similar to OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |
| Toluene 108-88-3 | NOAEL 2355 mg/m3 | inhalation: vapour | 15 w 6.5 h/d, 5 d/w | rat | EU Method B.29 (Sub-Chronic Inhalation Toxicity Test:90-Day Repeated Inhalation Dose Study Using Rodent Species) |
| cyclohexane 110-82-7 | | inhalation: vapour | 13-14 w 6 h/d, 5 d/w | mouse | EPA OPPTS 870.3465 (90-Day Inhalation Toxicity) |
| Pentane-2,4-dione 123-54-6 | NOAEL 244 mg/kg | dermal | 9 d 5 d/1st week, 4 d/2nd week | rabbit | not specified |

**Aspiration hazard:**

The mixture is classified based on Viscosity data.

Based on available data, the classification criteria are not met.

| Hazardous substances<br>CAS-No. | Viscosity (kinematic)<br>Value | Temperature | Method | Remarks |
|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | 1,8 mm2/s | 40 °C | ASTM Standard D7042 | |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | 0,5 mm2/s | 20 °C | not specified | |
| Toluene<br>108-88-3 | 0,57 mm2/s | 40 °C | not specified | |
| cyclohexane<br>110-82-7 | 0,41 mm2/s | 40 °C | not specified | |

**11.2 Information on other hazards**

not applicable

## SECTION 12: Ecological information

**General ecological information:**
Do not empty into drains, soil or bodies of water.

**12.1. Toxicity**

**Toxicity (Fish):**

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

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

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | LC50 | > 9.640 - 10.000 mg/l | 96 h | Pimephales promelas | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Ethyl acetate<br>141-78-6 | LC50 | 220 mg/l | 96 h | Pimephales promelas | other guideline: |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | LL50 | > 13,4 mg/l | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| n-Heptane<br>142-82-5 | LC50 | > 220 - 270 mg/l | 96 h | Leuciscus idus | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| vinyl acetate<br>108-05-4 | LC50 | 26 mg/l | 48 h | Leuciscus idus melanotus | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| vinyl acetate<br>108-05-4 | NOEC | 0,16 mg/l | 34 d | Pimephales promelas | OECD Guideline 210 (fish early lite stage toxicity test) |
| Toluene<br>108-88-3 | NOEC | 3,2 mg/l | 28 d | Cyprinodon variegatus | OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study) |
| Toluene<br>108-88-3 | LC50 | 5,5 mg/l | 96 h | Oncorhynchus kisutch | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| cyclohexane<br>110-82-7 | LC50 | 4,53 mg/l | 96 h | Pimephales promelas | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Pentane-2,4-dione<br>123-54-6 | LC50 | 104 mg/l | 96 h | Pimephales promelas | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Pentane-2,4-dione<br>123-54-6 | NOEC | 10 mg/l | 34 d | Pimephales promelas | OECD Guideline 210 (fish early lite stage toxicity test) |

**Toxicity (aquatic invertebrates):**

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

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

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Ethyl acetate<br>141-78-6 | EC50 | 164 mg/l | 48 h | Daphnia cucullata | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | EC50 | 3 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| n-Heptane<br>142-82-5 | EC50 | 1,5 mg/l | 48 h | Daphnia magna | other guideline: |
| vinyl acetate<br>108-05-4 | EC50 | 12,6 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Toluene<br>108-88-3 | EC50 | 3,78 mg/l | 48 h | Ceriodaphnia dubia | other guideline: |
| cyclohexane<br>110-82-7 | EC50 | 0,9 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Pentane-2,4-dione<br>123-54-6 | EC50 | 25,9 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |

**Chronic toxicity (aquatic invertebrates):**

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

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

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | NOEC | 30 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Ethyl acetate<br>141-78-6 | NOEC | 2,4 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | NOEC | 0,17 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| n-Heptane<br>142-82-5 | NOELR | 1 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Toluene<br>108-88-3 | NOEC | 0,74 mg/l | 7 d | Ceriodaphnia dubia | other guideline: |
| Pentane-2,4-dione<br>123-54-6 | NOEC | 18 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |

**Toxicity (Algae):**

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

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

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | EC50 | > 1.000 mg/l | 96 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Propan-2-ol<br>67-63-0 | NOEC | 1.000 mg/l | 96 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Ethyl acetate<br>141-78-6 | EC50 | > 2.000 mg/l | 96 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Ethyl acetate<br>141-78-6 | NOEC | 2.000 mg/l | 96 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | EL50 | 29 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | NOELR | 6,3 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| vinyl acetate<br>108-05-4 | NOEC | 5,96 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| vinyl acetate<br>108-05-4 | EC50 | 12,7 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Toluene<br>108-88-3 | IC50 | 12 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| cyclohexane<br>110-82-7 | EC50 | 9,317 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| cyclohexane<br>110-82-7 | NOEC | 0,95 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Pentane-2,4-dione<br>123-54-6 | EC50 | 83,22 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Pentane-2,4-dione<br>123-54-6 | NOEC | 3,2 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |

**Toxicity (microorganisms):**

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

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

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | EC50 | > 1.000 mg/l | 3 h | activated sludge | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |
| Ethyl acetate<br>141-78-6 | EC10 | 2.900 mg/l | 18 h | Pseudomonas putida | DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test) |
| Toluene<br>108-88-3 | NOEC | 29 mg/l | 16 h | Pseudomonas putida | DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test) |
| cyclohexane<br>110-82-7 | IC50 | 29 mg/l | 15 h | other: | not specified |
| Pentane-2,4-dione<br>123-54-6 | EC10 | 13,2 mg/l | 3 h | activated sludge of a predominantly domestic sewage | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |

**12.2. Persistence and degradability**

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

| Hazardous substances<br>CAS-No. | Result | Test type | Degradability | Exposure time | Method |
|---|---|---|---|---|---|
| Propan-2-ol<br>67-63-0 | readily biodegradable | aerobic | 70 - 84 % | 30 d | EU Method C.4-E (Determination of the "Ready" BiodegradabilityClosed Bottle Test) |
| Ethyl acetate<br>141-78-6 | readily biodegradable | aerobic | 100 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics<br>64742-49-0 | readily biodegradable | aerobic | 98 % | 28 d | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |
| n-Heptane<br>142-82-5 | readily biodegradable | aerobic | 70 % | 10 d | other guideline: |
| vinyl acetate<br>108-05-4 | readily biodegradable | aerobic | > 82 - 98 % | 14 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |
| Toluene<br>108-88-3 | readily biodegradable | aerobic | 80 % | 20 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| cyclohexane<br>110-82-7 | readily biodegradable | aerobic | 77 % | 28 d | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |
| Pentane-2,4-dione<br>123-54-6 | readily biodegradable | aerobic | 83 - 100 % | 28 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |

**12.3. Bioaccumulative potential**

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

| Hazardous substances<br>CAS-No. | Bioconcentration factor (BCF) | Exposure time | Temperature | Species | Method |
|---|---|---|---|---|---|
| Ethyl acetate<br>141-78-6 | 30 | 3 d | 22,5 °C | Leuciscus idus melanotus | other guideline: |
| n-Heptane<br>142-82-5 | 552 | | | calculation | QSAR (Quantitative Structure Activity Relationship) |
| Toluene<br>108-88-3 | 90 | 3 d | | Leuciscus idus melanotus | OECD Guideline 305 (Bioconcentration: Flow-through Fish Test) |
| cyclohexane<br>110-82-7 | 167 | | | Pimephales promelas | QSAR (Quantitative Structure Activity Relationship) |

**12.4. Mobility in soil**

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

| Hazardous substances<br>CAS-No. | LogPow | Temperature | Method |
|---|---|---|---|
| Propan-2-ol<br>67-63-0 | 0,05 | | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Ethyl acetate<br>141-78-6 | 0,68 | 25 °C | EPA OPPTS 830.7560 (Partition Coefficient, n-octanol / H2O, Generator Column Method) |
| n-Heptane<br>142-82-5 | 4,66 | | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| vinyl acetate<br>108-05-4 | 0,73 | 25 °C | other guideline: |
| Toluene<br>108-88-3 | 2,73 | 20 °C | EU Method A.8 (Partition Coefficient) |
| cyclohexane<br>110-82-7 | 3,44 | 25 °C | QSAR (Quantitative Structure Activity Relationship) |
| Pentane-2,4-dione<br>123-54-6 | 0,68 | 40 °C | not specified |

**12.5. Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be a PBT or vPvB.

**12.6. Endocrine disrupting properties**

not applicable

**12.7. Other adverse effects**

No data available.

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

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

Waste code

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.
080409

## SECTION 14: Transport information

**14.1. UN number or ID number**

| | |
|---|---|
| ADR | 1133 |
| RID | 1133 |
| ADN | 1133 |
| IMDG | 1133 |
| IATA | 1133 |

**14.2. UN proper shipping name**

| | |
|---|---|
| ADR | ADHESIVES |
| RID | ADHESIVES |
| ADN | ADHESIVES |
| IMDG | ADHESIVES (n-Heptane) |
| IATA | Adhesives |

**14.3. Transport hazard class(es)**

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

**14.4. Packing group**

| | |
|---|---|
| ADR | II |
| RID | II |
| ADN | II |
| IMDG | II |
| IATA | II |

**14.5. Environmental hazards**

| | |
|---|---|
| ADR | Environmentally Hazardous |
| RID | Environmentally Hazardous |
| ADN | Environmentally Hazardous |
| IMDG | Marine Pollutant |
| IATA | not applicable |

**14.6. Special precautions for user**

| | |
|---|---|
| ADR | Special provision 640D<br>Tunnelcode: (D/E) |
| RID | Special provision 640D |
| ADN | Special provision 640D |
| IMDG | not applicable |
| IATA | not applicable |

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

## SECTION 15: Regulatory information

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

| | |
|---|---|
| Ozone Depleting Substance (ODS) (Regulation (EC) No 2024/590): | Not applicable |
| Prior Informed Consent (PIC) (Regulation (EU) No 649/2012): | Not applicable |
| Persistent organic pollutants (Regulation (EU) 2019/1021): | Not applicable |

| | |
|---|---|
| VOC content (2010/75/EU) | 43,0 % |

**National regulations/information (Germany):**

| | |
|---|---|
| WGK: | WGK 2: significantly water endangering (Ordinance on facilities for handling substances that are hazardous to water (AwSV) )<br>Classification according to AwSV, Annex 1 (5.2) |

BG regulations, rules, infos:

BG data sheet: BGI 621 Solvents

Storage class according to TRGS 510: 3

**15.2. Chemical safety assessment**

A chemical safety assessment has been carried out.

## SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text
of all abbreviations indicated by codes in this safety data sheet are as follows:

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H300 Fatal if swallowed.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
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.

Abbreviations and acronyms:

ADG(-Code): Australian Dangerous Goods (Code)
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM: American Society for Testing and Materials
ATE: acute toxicity estimate
AS: Australian Standard
AwSV: Ordinance on Installations for the Handling of Substances Hazardous to Water
CAS: Chemical Abstract Service
CLP: Regulation (EC) No 1272/2008
CMR: cancerogenic, mutagenic or reprotoxic
DIN: German Institute for Standardization
ECx: Effective concentration (x% effective level)
ECHA: European Chemicals Agency
EC-Nummer: Substance number in the EU-inventories EINECS/ELINCS
ECTLV: European community threshold limit value
ED:Substance identified as having endocrine disrupting properties
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
EN : European Standard
ENCS: Japanese chemical inventory
EPA: US Environmental Protection Agency
EU: European Union
EU EXPLD1: Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD2: Substance listed in Annex II, Reg (EC) No. 2019/1148
EWC: European Waste Catalogue
GHS: Globally Harmonised System for Classification and Labelling of Chemicals
GLP: Good Laboratory Practice
HSNO: Hazardous Substances and New Organisms
IARC: International Agency for Research of Cancer
IATA: International Air Transport Association
IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization
IMDG-Code: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization
ISO: International Standardization Organisation
LC50: Median lethal concentration
LD50: Median lethal dose

MARPOL: International Convention for the Prevention of Marine Pollution from Ships
n.o.s.: not otherwise specified
NO(A)EC: No (adverse) effect concentration
NO(A)EL: No (adverse) effect level
NZS: New Zealand Standard
OECD: Organisation for Economic Co-operation and Development
OEL: Occupational Exposure Limit
OPPT: US EPA Office of Pollution Prevention and Toxics
OPPTS: US EPA Office of Prevention, Pesticides and Toxic Substances
PBT: Persistent, bioaccumulative, toxic
(Q)SAR: (Quantitative) structure–activity relationship
REACH: Regulation (EC) No. 1907/2006
RID: Regulations concerning the International Transport of Dangerous Goods by Rail
SADT: Self Accelerating Decomposition Temperature
SDS: Safety Data Sheet
STOT: Specific Target Organ Toxicity
STOT SE: Specific Target Organ Toxicity - single exposure
STOT RE: Specific Target Organ Toxicity - repeated exposure
SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons
SVHC: Substance of very high concern (REACH Candidate List)
TRGS: German Technical Rules for hazardous substances
UN: United Nations
VOC: Volatile Organic Compound
814.018 VOC Reg CH: Swiss Ordinance 814.018 on the Incentive Tax on Volatile Organic Compounds
vPvB: Very persistent, very bioaccumulative
VwVwS: Administrative Regulation on Substances Hazardous to Waters
WGK: Water hazard class

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