

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 30/07/2018

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Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Product name : VOC Calibration Verificaion
Product code : AL0-130343
Product group : Trade product

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

1.2.1. Relevant identified uses

Main use category : Laboratory Use
Industrial/Professional use spec : Industrial
For professional use only
Use of the substance/mixture : Certified reference material for laboratory use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Phenova
6390 Joyce Dr. Suite 100
80403 Golden, CO - United States
T 1-866-942-2978 - F 1-866-283-0269
info@phenova.com - www.phenova.com

1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924
ChemTel Assistance (International) +1 813-248-0585

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

| | |
|---------------------------|------|
| Flam. Liq. 2 | H225 |
| Acute Tox. 4 (Oral) | H302 |
| Acute Tox. 4 (Dermal) | H312 |
| Acute Tox. 4 (Inhalation) | H332 |
| Skin Irrit. 2 | H315 |
| Eye Dam. 1 | H318 |
| Carc. 2 | H351 |
| Repr. 2 | H361 |
| STOT SE 2 | H371 |
| STOT SE 3 | H336 |
| STOT RE 2 | H373 |
| Aquatic Chronic 2 | H411 |
| Ozone 1 | H420 |

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.3; R40
Repr.Cat.3; R63
F; R11
Xn; R20/21/22
Xn; R68/20/21/22
Xn; R48/20
Xi; R36/38
N; R51/53
N; R59

Full text of R-phrases: see section 16

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapor
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H315 - Causes skin irritation
H318 - Causes serious eye damage
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer
H361 - Suspected of damaging fertility or the unborn child
H371 - May cause damage to organs
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects
H420 - Harms public health and the environment by destroying ozone in the upper atmosphere

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 - Keep container tightly closed
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - IF exposed or concerned: Get medical advice/attention
P332+P313 - If skin irritation occurs: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P370+P378 - In case of fire: Use media other than water to extinguish
P391 - Collect spillage
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

No labeling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---------------------------------|---|----|--|
| toluene (Component) | (CAS No) 108-88-3 (EC-No.) 203-625-9 (EC index no) 601-021-00-3 | 10 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 |
| acetone (Component) | (CAS No) 67-64-1 (EC-No.) 200-662-2 (EC index no) 606-001-00-8 | 9 | Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 |
| butyl glycoether (Component) | (CAS No) 111-76-2 (EC-No.) 203-905-0 (EC index no) 603-014-00-0 | 9 | Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 |

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|--------------------------------------|---|--|---|
| 1,2-dichlorobenzene (Component) | (CAS No) 95-50-1 (EC-No.) 202-425-9 (EC index no) 602-034-00-7 | 9 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 1-butanol (Component) | (CAS No) 71-36-3 (EC-No.) 200-751-6 (EC index no) 603-004-00-6 | 9 | Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336 |
| ethyl acetate (Component) | (CAS No) 141-78-6 (EC-No.) 205-500-4 (EC index no) 607-022-00-5 | 9 | Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 |
| Methylene Chloride (Component) | (CAS No) 75-09-2 (EC-No.) 200-838-9 (EC index no) 602-004-00-3 | 9 | Carc. 2, H351 |
| 1,1,1-trichloroethane (Component) | (CAS No) 71-55-6 (EC-No.) 200-756-3 (EC index no) 602-013-00-2 | 9 | Acute Tox. 4 (Inhalation), H332 Ozone 1, H420 |
| octane (Component) | (CAS No) 111-65-9 (EC-No.) 203-892-1 (EC index no) 601-009-00-8 | 9 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| methanol (Component) | (CAS No) 67-56-1 (EC-No.) 200-659-6 (EC index no) 603-001-00-X | 6.66 | Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H311 STOT SE 1, H370 |
| hexadecane (Component) | (CAS No) 544-76-3 (EC-No.) 208-878-9 | 3 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 |
| Name | Product identifier | Specific concentration limits | |
| methanol (Component) | (CAS No) 67-56-1 (EC-No.) 200-659-6 (EC index no) 603-001-00-X | (3 =<C < 10) STOT SE 2, H371 (C >= 10) STOT SE 1, H370 | |

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures general | : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention. |
| First-aid measures after inhalation | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. |
| First-aid measures after skin contact | : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Immediately call a poison center or doctor/physician. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention immediately if irritation persists. Get medical advice/attention. Gently wash with plenty of soap and water. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician. |
| First-aid measures after ingestion | : Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. |

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

| | |
|-------------------------------------|---|
| Symptoms/effects after inhalation | : May cause drowsiness or dizziness. |
| Symptoms/effects after skin contact | : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin. Causes skin irritation. |
| Symptoms/effects after eye contact | : Causes serious eye damage. |
| Symptoms/effects after ingestion | : Swallowing a small quantity of this material will result in serious health hazard. |

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|---|
| Suitable extinguishing media | : Use extinguishing media appropriate for surrounding fire. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Highly flammable liquid and vapor.
Explosion hazard : May form flammable/explosive vapor-air mixture.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapors/spray.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up in absorbent material. Collect spillage.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. Use only non-sparking tools. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.
Hygiene measures : Do not eat, drink or smoke when using this product. Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.
Storage conditions : Keep in fireproof place. Keep container tightly closed. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source.
Incompatible materials : Direct sunlight. Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| acetone (67-64-1) | | |
|-------------------|---------------------------------------|--|
| EU | IOELV TWA (mg/m ³) | 1210 mg/m ³ (Acetone; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value) |
| EU | IOELV TWA (ppm) | 500 ppm (Acetone; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value) |
| Belgium | Limit value (mg/m ³) | 1210 mg/m ³ (Acétone; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Limit value (ppm) | 500 ppm (Acétone; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Short time value (mg/m ³) | 2420 mg/m ³ (Acétone; Belgium; Short time value) |
| Belgium | Short time value (ppm) | 1000 ppm (Acétone; Belgium; Short time value) |
| France | VLE (mg/m ³) | 2420 mg/m ³ (Acétone; France; Short time value; VRC: Valeur réglementaire contraignante) |
| France | VLE (ppm) | 1000 ppm (Acétone; France; Short time value; VRC: Valeur réglementaire contraignante) |

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| acetone (67-64-1) | | |
|-------------------------------------|--|--|
| France | VME (mg/m ³) | 1210 mg/m ³ (Acétone; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante) |
| France | VME (ppm) | 500 ppm (Acétone; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante) |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 500 ppm (Acetone; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| Italy - Portugal - USA ACGIH | ACGIH STEL (ppm) | 750 ppm (Acetone; USA; Short time value; TLV - Adopted Value) |
| Netherlands | Grenswaarde TGG 8H (mg/m ³) | 1210 mg/m ³ (Aceton; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value) |
| Netherlands | Grenswaarde TGG 8H (ppm) | 501 ppm (Aceton; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value) |
| Netherlands | Grenswaarde TGG 15MIN (mg/m ³) | 2420 mg/m ³ (Aceton; Netherlands; Short time value; Public occupational exposure limit value) |
| Netherlands | Grenswaarde TGG 15MIN (ppm) | 1002 ppm (Aceton; Netherlands; Short time value; Public occupational exposure limit value) |
| United Kingdom | WEL TWA (mg/m ³) | 1210 mg/m ³ Acetone; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL TWA (ppm) | 500 ppm Acetone; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (mg/m ³) | 3620 mg/m ³ Acetone; United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (ppm) | 1500 ppm Acetone; United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| butyl glycolether (111-76-2) | | |
| EU | IOELV TWA (mg/m ³) | 98 mg/m ³ |
| EU | IOELV TWA (ppm) | 20 ppm |
| EU | IOELV STEL (mg/m ³) | 246 mg/m ³ |
| EU | IOELV STEL (ppm) | 50 ppm |
| Belgium | Limit value (mg/m ³) | 98 mg/m ³ |
| Belgium | Limit value (ppm) | 20 ppm |
| Belgium | Short time value (mg/m ³) | 246 mg/m ³ |
| Belgium | Short time value (ppm) | 50 ppm |
| France | VLE (mg/m ³) | 246 mg/m ³ |
| France | VLE (ppm) | 50 ppm |
| France | VME (mg/m ³) | 49 mg/m ³ |
| France | VME (ppm) | 10 ppm |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 20 ppm |
| Netherlands | Grenswaarde TGG 8H (mg/m ³) | 100 mg/m ³ |
| Netherlands | Grenswaarde TGG 8H (ppm) | 20 ppm |
| Netherlands | Grenswaarde TGG 15MIN (mg/m ³) | 246 mg/m ³ |
| Netherlands | Grenswaarde TGG 15MIN (ppm) | 50 ppm |
| United Kingdom | WEL TWA (mg/m ³) | 123 mg/m ³ |
| United Kingdom | WEL TWA (ppm) | 25 ppm |
| United Kingdom | WEL STEL (mg/m ³) | 246 mg/m ³ |
| United Kingdom | WEL STEL (ppm) | 50 ppm |
| 1-butanol (71-36-3) | | |
| Belgium | Limit value (mg/m ³) | 62 mg/m ³ (Alcool n-butylrique; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Limit value (ppm) | 20 ppm (Alcool n-butylrique; Belgium; Time-weighted average exposure limit 8 h) |
| France | VLE (mg/m ³) | 150 mg/m ³ (Alcool n-butylrique; France; Short time value; VL: Valeur non réglementaire indicative) |
| France | VLE (ppm) | 50 ppm (Alcool n-butylrique; France; Short time value; VL: Valeur non réglementaire indicative) |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 20 ppm (n-Butanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| 1-butanol (71-36-3) | | |
|--------------------------------------|--|---|
| United Kingdom | WEL STEL (mg/m ³) | 154 mg/m ³ Butan-1-ol; United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (ppm) | 50 ppm Butan-1-ol; United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| 1,2-dichlorobenzene (95-50-1) | | |
| EU | IOELV TWA (mg/m ³) | 122 mg/m ³ (1,2-Dichlorobenzene; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value) |
| EU | IOELV TWA (ppm) | 20 ppm (1,2-Dichlorobenzene; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value) |
| EU | IOELV STEL (mg/m ³) | 306 mg/m ³ (1,2-Dichlorobenzene; EU; Short time value; Indicative occupational exposure limit value) |
| EU | IOELV STEL (ppm) | 50 ppm (1,2-Dichlorobenzene; EU; Short time value; Indicative occupational exposure limit value) |
| Belgium | Limit value (mg/m ³) | 122 mg/m ³ (1,2-Dichlorobenzène; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Limit value (ppm) | 20 ppm (1,2-Dichlorobenzène; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Short time value (mg/m ³) | 306 mg/m ³ (1,2-Dichlorobenzène; Belgium; Short time value) |
| Belgium | Short time value (ppm) | 50 ppm (1,2-Dichlorobenzène; Belgium; Short time value) |
| France | VLE (mg/m ³) | 306 mg/m ³ (1,2-Dichlorobenzène; France; Short time value; VRC: Valeur réglementaire contraignante) |
| France | VLE (ppm) | 50 ppm (1,2-Dichlorobenzène; France; Short time value; VRC: Valeur réglementaire contraignante) |
| France | VME (mg/m ³) | 122 mg/m ³ (1,2-Dichlorobenzène; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante) |
| France | VME (ppm) | 20 ppm (1,2-Dichlorobenzène; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante) |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 25 ppm (o-Dichlorobenzene; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| Italy - Portugal - USA ACGIH | ACGIH STEL (ppm) | 50 ppm (o-Dichlorobenzene; USA; Short time value; TLV - Adopted Value) |
| Netherlands | Grenswaarde TGG 8H (mg/m ³) | 122 mg/m ³ (1,2-Dichloorbenzeen; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value) |
| Netherlands | Grenswaarde TGG 8H (ppm) | 20 ppm (1,2-Dichloorbenzeen; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value) |
| Netherlands | Grenswaarde TGG 15MIN (mg/m ³) | 300 mg/m ³ (1,2-Dichloorbenzeen; Netherlands; Short time value; Public occupational exposure limit value) |
| Netherlands | Grenswaarde TGG 15MIN (ppm) | 49 ppm (1,2-Dichloorbenzeen; Netherlands; Short time value; Public occupational exposure limit value) |
| United Kingdom | WEL TWA (mg/m ³) | 153 mg/m ³ 1,2-dichlorobenzene (ortho-dichlorobenzene); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL TWA (ppm) | 25 ppm 1,2-dichlorobenzene (ortho-dichlorobenzene); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (mg/m ³) | 306 mg/m ³ 1,2-dichlorobenzene (ortho-dichlorobenzene); United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (ppm) | 50 ppm 1,2-dichlorobenzene (ortho-dichlorobenzene); United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| ethyl acetate (141-78-6) | | |
| Belgium | Limit value (mg/m ³) | 1461 mg/m ³ (Acétate d'éthyle; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Limit value (ppm) | 400 ppm (Acétate d'éthyle; Belgium; Time-weighted average exposure limit 8 h) |

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| ethyl acetate (141-78-6) | | |
|-------------------------------------|---|--|
| France | VME (mg/m ³) | 1400 mg/m ³ (Acétate d'éthyle; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative) |
| France | VME (ppm) | 400 ppm (Acétate d'éthyle; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative) |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 400 ppm (Ethyl acetate; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| United Kingdom | WEL TWA (ppm) | 200 ppm Ethyl acetate; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (ppm) | 400 ppm Ethyl acetate; United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| methanol (67-56-1) | | |
| EU | IOELV TWA (mg/m ³) | 260 mg/m ³ (Methanol; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value) |
| EU | IOELV TWA (ppm) | 200 ppm (Methanol; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value) |
| Belgium | Limit value (mg/m ³) | 266 mg/m ³ (Alcool méthylique; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Limit value (ppm) | 200 ppm (Alcool méthylique; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Short time value (mg/m ³) | 333 mg/m ³ (Alcool méthylique; Belgium; Short time value) |
| Belgium | Short time value (ppm) | 250 ppm (Alcool méthylique; Belgium; Short time value) |
| France | VLE (mg/m ³) | 1300 mg/m ³ (Methanol; France; Short time value; VL: Valeur non réglementaire indicative) |
| France | VLE (ppm) | 1000 ppm (Methanol; France; Short time value; VL: Valeur non réglementaire indicative) |
| France | VME (mg/m ³) | 260 mg/m ³ (Methanol; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante) |
| France | VME (ppm) | 200 ppm (Methanol; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante) |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| Italy - Portugal - USA ACGIH | ACGIH STEL (ppm) | 250 ppm (Methanol; USA; Short time value; TLV - Adopted Value) |
| Netherlands | Grenswaarde TGG 8H (mg/m ³) | 133 mg/m ³ (Methanol; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value) |
| Netherlands | Grenswaarde TGG 8H (ppm) | 100 ppm (Methanol; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value) |
| United Kingdom | WEL TWA (mg/m ³) | 266 mg/m ³ Methanol; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL TWA (ppm) | 200 ppm Methanol; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (mg/m ³) | 333 mg/m ³ Methanol; United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (ppm) | 250 ppm Methanol; United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| Methylene Chloride (75-09-2) | | |
| Belgium | Limit value (mg/m ³) | 177 mg/m ³ (Chlorure de méthylène; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Limit value (ppm) | 50 ppm (Chlorure de méthylène; Belgium; Time-weighted average exposure limit 8 h) |
| France | VLE (mg/m ³) | 356 mg/m ³ (Dichlorométhane; France; Short time value; VRC: Valeur réglementaire contraignante) |
| France | VLE (ppm) | 100 ppm (Dichlorométhane; France; Short time value; VRC: Valeur réglementaire contraignante) |

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| Methylene Chloride (75-09-2) | | |
|-------------------------------------|---|---|
| France | VME (mg/m ³) | 178 mg/m ³ (Dichlorométhane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante) |
| France | VME (ppm) | 50 ppm (Dichlorométhane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante) |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 50 ppm (Dichloromethane (Methylene chloride); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| United Kingdom | WEL TWA (mg/m ³) | 350 mg/m ³ Dichloromethane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL TWA (ppm) | 100 ppm Dichloromethane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (mg/m ³) | 1060 mg/m ³ Dichloromethane; United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (ppm) | 300 ppm Dichloromethane; United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| octane (111-65-9) | | |
| Belgium | Limit value (mg/m ³) | 1420 mg/m ³ (Octane; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Limit value (ppm) | 300 ppm (Octane; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Short time value (mg/m ³) | 1775 mg/m ³ (Octane; Belgium; Short time value) |
| Belgium | Short time value (ppm) | 375 ppm (Octane; Belgium; Short time value) |
| France | VME (mg/m ³) | 1450 mg/m ³ (n-Octane; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative) |
| France | VME (ppm) | 300 ppm (n-Octane; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative) |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 300 ppm (Octane, all isomers; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| toluene (108-88-3) | | |
| EU | IOELV TWA (mg/m ³) | 192 mg/m ³ (Toluene; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value) |
| EU | IOELV TWA (ppm) | 50 ppm (Toluene; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value) |
| EU | IOELV STEL (mg/m ³) | 384 mg/m ³ (Toluene; EU; Short time value; Indicative occupational exposure limit value) |
| EU | IOELV STEL (ppm) | 100 ppm (Toluene; EU; Short time value; Indicative occupational exposure limit value) |
| Belgium | Limit value (mg/m ³) | 77 mg/m ³ (Toluène; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Limit value (ppm) | 20 ppm (Toluène; Belgium; Time-weighted average exposure limit 8 h) |
| Belgium | Short time value (mg/m ³) | 384 mg/m ³ (Toluène; Belgium; Short time value) |
| Belgium | Short time value (ppm) | 100 ppm (Toluène; Belgium; Short time value) |
| France | VLE (mg/m ³) | 384 mg/m ³ (Toluène; France; Short time value; VRC: Valeur réglementaire contraignante) |
| France | VLE (ppm) | 100 ppm (Toluène; France; Short time value; VRC: Valeur réglementaire contraignante) |
| France | VME (mg/m ³) | 76.8 mg/m ³ (Toluène; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante) |
| France | VME (ppm) | 20 ppm (Toluène; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante) |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 20 ppm (Toluene; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| Netherlands | Grenswaarde TGG 8H (mg/m ³) | 150 mg/m ³ (Toluene; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value) |

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| toluene (108-88-3) | | |
|--------------------|--|---|
| Netherlands | Grenswaarde TGG 8H (ppm) | 39 ppm (Toluene; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value) |
| Netherlands | Grenswaarde TGG 15MIN (mg/m ³) | 384 mg/m ³ (Toluene; Netherlands; Short time value; Public occupational exposure limit value) |
| Netherlands | Grenswaarde TGG 15MIN (ppm) | 100 ppm (Toluene; Netherlands; Short time value; Public occupational exposure limit value) |
| United Kingdom | WEL TWA (mg/m ³) | 191 mg/m ³ Toluene; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL TWA (ppm) | 50 ppm Toluene; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (mg/m ³) | 384 mg/m ³ Toluene; United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |
| United Kingdom | WEL STEL (ppm) | 100 ppm Toluene; United Kingdom; Short time value; Workplace exposure limit (EH40/2005) |

8.2. Exposure controls

Appropriate engineering controls

: Either local exhaust or general room ventilation is usually required.

Personal protective equipment

: Avoid all unnecessary exposure. Wash hands, forearms and face thoroughly after handling. Gloves. Protective clothing. Protective goggles. Safety glasses.



Hand protection

: Wear chemically resistant protective gloves. Wear suitable gloves resistant to chemical penetration.

Eye protection

: Chemical goggles or safety glasses. Safety glasses.

Skin and body protection

: Wear suitable protective clothing. Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact.

Respiratory protection

: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

Other information

: Do not eat, drink or smoke during use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---------------------------|-------------------------------------|
| Physical state | : Liquid |
| Color | : Colorless. |
| Odor | : characteristic. |
| pH | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Highly flammable liquid and vapor |
| Relative density | : No data available |
| Solubility | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Explosion limits | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

10.2. Chemical stability

Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation: Harmful if inhaled.

| VOC Calibration Verificaion | |
|-------------------------------|---|
| ATE CLP (oral) | 976.97 mg/kg body weight |
| ATE CLP (dermal) | 1100 mg/kg body weight |
| ATE CLP (gases) | 4500 ppmV/4h |
| ATE CLP (vapors) | 11 mg/l/4h |
| ATE CLP (dust, mist) | 1.5 mg/l/4h |
| acetone (67-64-1) | |
| LD50 oral rat | 5800 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value) |
| LD50 dermal rabbit | 20000 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; >7426 mg/kg bodyweight; Rabbit; Weight of evidence) |
| LC50 inhalation rat (mg/l) | 71 mg/l/4h (Rat; Experimental value; 76 mg/l/4h; Rat; Experimental value) |
| LC50 inhalation rat (ppm) | 30000 ppm/4h (Rat; Experimental value) |
| ATE CLP (oral) | 5800 mg/kg body weight |
| ATE CLP (dermal) | 20000 mg/kg body weight |
| ATE CLP (gases) | 30000 ppmV/4h |
| ATE CLP (vapors) | 71 mg/l/4h |
| ATE CLP (dust, mist) | 71 mg/l/4h |
| butyl glycolether (111-76-2) | |
| LD50 oral rat | 1746 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral) |
| LD50 oral | 1414 mg/kg body weight (OECD 401: Acute Oral Toxicity, Guinea pig, Male/female, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rat | > 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, Rat, Male/female, Experimental value, Dermal, 14 day(s)) |
| LC50 inhalation rat (ppm) | 450 ppm (Equivalent or similar to OECD 403, 4 h, Rat, Female, Experimental value, Inhalation (vapours)) |
| ATE CLP (oral) | 1414 mg/kg body weight |
| ATE CLP (dermal) | 1100 mg/kg body weight |
| ATE CLP (gases) | 4500 ppmV/4h |
| ATE CLP (vapors) | 11 mg/l/4h |
| ATE CLP (dust, mist) | 1.5 mg/l/4h |
| 1-butanol (71-36-3) | |
| LD50 oral rat | 790 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature; 2293 mg/kg bodyweight; Rat; Experimental value) |
| LD50 dermal rabbit | 3400 mg/kg (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity; 3430 mg/kg bodyweight; Rabbit) |
| LC50 inhalation rat (mg/l) | 24 mg/l/4h (Rat) |
| LC50 inhalation rat (ppm) | 8000 ppm/4h (Rat) |
| ATE CLP (oral) | 790 mg/kg body weight |
| ATE CLP (dermal) | 3400 mg/kg body weight |
| ATE CLP (gases) | 8000 ppmV/4h |
| ATE CLP (vapors) | 24 mg/l/4h |
| ATE CLP (dust, mist) | 24 mg/l/4h |
| 1,2-dichlorobenzene (95-50-1) | |
| LD50 oral rat | 500 mg/kg (Rat) |

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| 1,2-dichlorobenzene (95-50-1) | |
|--|---|
| LD50 dermal rabbit | > 10000 mg/kg (Rabbit) |
| LC50 inhalation rat (mg/l) | 9.5 mg/l/4h (Rat) |
| ATE CLP (oral) | 500 mg/kg body weight |
| ATE CLP (vapors) | 9.5 mg/l/4h |
| ATE CLP (dust, mist) | 9.5 mg/l/4h |
| ethyl acetate (141-78-6) | |
| LD50 oral rat | 5620 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value; 10200 mg/kg bodyweight; Rat) |
| LD50 dermal rabbit | > 18000 mg/kg (Rabbit; Experimental value; 24 hour cuff method; >20000 mg/kg bodyweight; Rabbit) |
| LC50 inhalation rat (mg/l) | 70.56 mg/l/4h (Rat) |
| LC50 inhalation rat (ppm) | 19600 ppm/4h (Rat) |
| ATE CLP (oral) | 5620 mg/kg body weight |
| ATE CLP (gases) | 19600 ppmV/4h |
| ATE CLP (vapors) | 70.56 mg/l/4h |
| ATE CLP (dust, mist) | 70.56 mg/l/4h |
| methanol (67-56-1) | |
| LD50 oral rat | > 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence) |
| LD50 dermal rabbit | 15800 mg/kg (Rabbit; Literature study) |
| LC50 inhalation rat (mg/l) | 85 mg/l/4h (Rat; Literature study) |
| LC50 inhalation rat (ppm) | 64000 ppm/4h (Rat; Literature study) |
| ATE CLP (oral) | 100 mg/kg body weight |
| ATE CLP (dermal) | 300 mg/kg body weight |
| ATE CLP (gases) | 700 ppmV/4h |
| ATE CLP (vapors) | 3 mg/l/4h |
| ATE CLP (dust, mist) | 0.5 mg/l/4h |
| Methylene Chloride (75-09-2) | |
| LD50 oral rat | > 2000 mg/kg (Rat; Literature study) |
| LD50 dermal rabbit | > 2000 mg/kg (Rabbit; Literature study) |
| octane (111-65-9) | |
| LD50 oral rat | 5630 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; >5000 mg/kg bodyweight; Rat; Read-across) |
| LD50 dermal rabbit | > 2000 mg/kg body weight (Rabbit; Read-across; Equivalent or similar to OECD 402) |
| LC50 inhalation rat (mg/l) | 118 mg/l/4h (Rat; Literature study) |
| ATE CLP (oral) | 5630 mg/kg body weight |
| ATE CLP (vapors) | 118 mg/l/4h |
| ATE CLP (dust, mist) | 118 mg/l/4h |
| 1,1,1-trichloroethane (71-55-6) | |
| LD50 oral rat | 9600 mg/kg (Rat) |
| LD50 dermal rabbit | > 15800 mg/kg (Rabbit) |
| LC50 inhalation rat (mg/l) | 99 mg/l/4h (Rat) |
| LC50 inhalation rat (ppm) | 18400 ppm/4h (Rat) |
| ATE CLP (oral) | 9600 mg/kg body weight |
| ATE CLP (gases) | 18400 ppmV/4h |
| ATE CLP (vapors) | 11 mg/l/4h |
| ATE CLP (dust, mist) | 1.5 mg/l/4h |
| toluene (108-88-3) | |
| LD50 oral rat | > 2000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; 5580 mg/kg bodyweight; Rat; Experimental value) |
| LD50 dermal rabbit | 12223 mg/kg (Rabbit; Literature study; Other; >5000 mg/kg bodyweight; Rabbit; Experimental value) |
| LC50 inhalation rat (mg/l) | > 20 mg/l/4h (Rat; Literature study) |
| ATE CLP (dermal) | 12223 mg/kg body weight |

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Based on available data, the classification criteria are not met

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| | |
|---|--|
| Germ cell mutagenicity | : Not classified Based on available data, the classification criteria are not met |
| Carcinogenicity | : Suspected of causing cancer. May cause cancer |
| Reproductive toxicity | : Suspected of damaging fertility or the unborn child. |
| Specific target organ toxicity – single exposure | : May cause damage to organs. May cause drowsiness or dizziness. |
| Specific target organ toxicity – repeated exposure | : May cause damage to organs through prolonged or repeated exposure. |
| Aspiration hazard | : Not classified Based on available data, the classification criteria are not met |
| Potential Adverse human health effects and symptoms | : Harmful if swallowed. Harmful in contact with skin. |

SECTION 12: Ecological information

12.1. Toxicity

| | |
|-----------------|--|
| Ecology - air | : Dangerous for the ozone layer. |
| Ecology - water | : Toxic to aquatic life with long lasting effects. |

| acetone (67-64-1) | |
|--|---|
| LC50 fish 2 | 5540 mg/l (LC50; EU Method C.1; 96 h; Salmo gairdneri; Static system; Fresh water; Experimental value) |
| EC50 Daphnia 2 | 12600 mg/l (LC50; Other; 48 h; Daphnia magna; Static system; Fresh water; Experimental value) |
| butyl glycoether (111-76-2) | |
| LC50 fish 1 | 1474 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration) |
| EC50 Daphnia 1 | 1550 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration) |
| 1-butanol (71-36-3) | |
| LC50 fish 1 | 1376 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Pimephales promelas; Static system; Fresh water; Experimental value) |
| EC50 Daphnia 1 | 1328 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value) |
| 1,2-dichlorobenzene (95-50-1) | |
| LC50 fish 1 | 1.58 mg/l (LC50; 96 h) |
| EC50 Daphnia 2 | 0.74 mg/l (EC50; 48 h) |
| ethyl acetate (141-78-6) | |
| LC50 fish 2 | 230 mg/l (LC50; US EPA; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value) |
| EC50 Daphnia 2 | 154 mg/l (EC50; 48 h; Daphnia magna) |
| hexadecane (544-76-3) | |
| LC50 fish 1 | 1600 mg/l (LC50; 48 h) |
| methanol (67-56-1) | |
| LC50 fish 1 | 15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value) |
| EC50 Daphnia 1 | > 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value) |
| LC50 fish 2 | 10800 mg/l (LC50; 96 h; Salmo gairdneri) |
| Methylene Chloride (75-09-2) | |
| LC50 fish 1 | 193 mg/l (LC50; 96 h; Pimephales promelas) |
| EC50 Daphnia 1 | 168.2 mg/l (EC50; 48 h) |
| octane (111-65-9) | |
| EC50 Daphnia 1 | 0.38 mg/l (EC50; Other; 48 h; Daphnia magna; Static system; Fresh water; Experimental value) |
| 1,1,1-trichloroethane (71-55-6) | |
| LC50 fish 1 | 40 mg/l (LC50; 96 h; Lepomis macrochirus) |
| EC50 Daphnia 2 | 2384 mg/l (EC50; 48 h) |

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

12.2. Persistence and degradability

| VOC Calibration Verificaion | |
|--|--|
| Persistence and degradability | May cause long-term adverse effects in the environment. |
| acetone (67-64-1) | |
| Persistence and degradability | Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available. |
| Biochemical oxygen demand (BOD) | 1.43 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 1.92 g O ₂ /g substance |
| ThOD | 2.2 g O ₂ /g substance |
| BOD (% of ThOD) | 0.872 (20 days; Literature study) |
| butyl glycolether (111-76-2) | |
| Persistence and degradability | Readily biodegradable in water. |
| 1-butanol (71-36-3) | |
| Persistence and degradability | Readily biodegradable in water. Low potential for adsorption in soil. Photolysis in the air. |
| Biochemical oxygen demand (BOD) | 1.1 - 1.92 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 2.46 g O ₂ /g substance |
| ThOD | 2.59 g O ₂ /g substance |
| BOD (% of ThOD) | 0.33 - 0.79 |
| 1,2-dichlorobenzene (95-50-1) | |
| Persistence and degradability | Not readily biodegradable in water. Forming sediments in water. Non degradable in the soil. Adsorbs into the soil. |
| BOD (% of ThOD) | 0 |
| ethyl acetate (141-78-6) | |
| Persistence and degradability | Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil. |
| Biochemical oxygen demand (BOD) | 0.293 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 1.69 g O ₂ /g substance |
| ThOD | 1.82 g O ₂ /g substance |
| hexadecane (544-76-3) | |
| Persistence and degradability | Readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Adsorbs into the soil. Photodegradation in the air. |
| ThOD | 3.46 g O ₂ /g substance |
| methanol (67-56-1) | |
| Persistence and degradability | Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil. |
| Biochemical oxygen demand (BOD) | 0.6 - 1.12 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 1.42 g O ₂ /g substance |
| ThOD | 1.5 g O ₂ /g substance |
| BOD (% of ThOD) | 0.8 (Literature study) |
| Methylene Chloride (75-09-2) | |
| Persistence and degradability | Not readily biodegradable in water. Biodegradable in the soil. |
| octane (111-65-9) | |
| Persistence and degradability | Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil. |
| Biochemical oxygen demand (BOD) | 2.33 g O ₂ /g substance (35d) |
| ThOD | 3.5 g O ₂ /g substance |
| BOD (% of ThOD) | 0.67 (35 days) |
| 1,1,1-trichloroethane (71-55-6) | |
| Persistence and degradability | Not readily biodegradable in water. Non degradable in the soil. |
| toluene (108-88-3) | |
| Persistence and degradability | Readily biodegradable in water. easily degradable in the soil. |
| Biochemical oxygen demand (BOD) | 2.15 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 2.52 g O ₂ /g substance |
| ThOD | 3.13 g O ₂ /g substance |
| BOD (% of ThOD) | 0.69 |

12.3. Bioaccumulative potential

| VOC Calibration Verificaion | |
|-----------------------------|------------------|
| Bioaccumulative potential | Not established. |
| acetone (67-64-1) | |
| BCF fish 1 | 0.69 (BCF) |

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| | |
|--|---|
| acetone (67-64-1) | |
| BCF other aquatic organisms 1 | 3 (BCF; BCFWIN) |
| Log Pow | -0.24 (Test data) |
| Bioaccumulative potential | Not bioaccumulative. |
| butyl glycolether (111-76-2) | |
| Log Pow | 0.81 (Test data, 20 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |
| 1-butanol (71-36-3) | |
| BCF other aquatic organisms 1 | 3.16 (BCF; BCFWIN) |
| Log Pow | 1 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method; 25 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |
| 1,2-dichlorobenzene (95-50-1) | |
| BCF fish 1 | 90 - 260 (BCF) |
| BCF fish 2 | 270 - 560 (BCF) |
| BCF other aquatic organisms 1 | 14791 (BCF) |
| BCF other aquatic organisms 2 | 28840 (BCF) |
| Log Pow | 3.43 (Experimental value) |
| Bioaccumulative potential | Potential for bioaccumulation (500 ≤ BCF ≤ 5000). |
| ethyl acetate (141-78-6) | |
| BCF fish 1 | 30 (BCF; 3 days; Leuciscus idus; Static system) |
| Log Pow | 0.68 (Experimental value; EPA OPPTS 830.7560; 25 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |
| hexadecane (544-76-3) | |
| BCF fish 1 | 5.0 - 47.9 (BCF) |
| BCF fish 2 | 5.6 (BCF; 168 h; Salmo salar) |
| Log Pow | 8.25 (Estimated value) |
| Bioaccumulative potential | High potential for bioaccumulation (Log Kow > 5). |
| methanol (67-56-1) | |
| BCF fish 1 | < 10 (BCF; 72 h; Leuciscus idus) |
| Log Pow | -0.77 (Experimental value; Other) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |
| Methylene Chloride (75-09-2) | |
| BCF fish 1 | 2 - 40 (BCF) |
| Log Pow | 1.25 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |
| octane (111-65-9) | |
| BCF fish 1 | 776 - 5129 (BCF) |
| BCF other aquatic organisms 1 | 198.7 (BCF; 105 minutes; Mytilus edulis; Static system; Salt water; Experimental value) |
| Log Pow | 5.18 (Experimental value) |
| Bioaccumulative potential | High potential for bioaccumulation (BCF > 5000). |
| 1,1,1-trichloroethane (71-55-6) | |
| BCF fish 1 | 9 (BCF; 672 h) |
| BCF fish 2 | 0.7 - 4.9 (BCF) |
| BCF other aquatic organisms 1 | 0.7 - 34 (BCF) |
| BCF other aquatic organisms 2 | 0 - 10 (BCF) |
| Log Pow | 2.46 - 2.49 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |
| toluene (108-88-3) | |
| BCF fish 2 | 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) |
| Log Pow | 2.73 (Experimental value; Other; 20 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |
| 12.4. Mobility in soil | |
| acetone (67-64-1) | |
| Surface tension | 0.0237 N/m |
| butyl glycolether (111-76-2) | |
| Surface tension | 65.03 mN/m (20 °C, 2 g/l) |

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| | |
|--|---|
| butyl glycolether (111-76-2) | |
| Ecology - soil | Low potential for adsorption in soil. |
| 1-butanol (71-36-3) | |
| Surface tension | 0.025 N/m (20 °C) |
| Log Koc | Koc,PCKOCWIN v1.66; 2.443; Calculated value; log Koc; PCKOCWIN v1.66; 0.388; Calculated value |
| Ecology - soil | May be harmful to plant growth, blooming and fruit formation. |
| 1,2-dichlorobenzene (95-50-1) | |
| Surface tension | 0.037 N/m (20 °C) |
| ethyl acetate (141-78-6) | |
| Surface tension | 0.024 N/m (20 °C) |
| methanol (67-56-1) | |
| Surface tension | 0.023 N/m (20 °C) |
| Log Koc | Koc,PCKOCWIN v1.66; 1; Calculated value |
| Methylene Chloride (75-09-2) | |
| Surface tension | 0.028 N/m (20 °C) |
| Ecology - soil | May be harmful to plant growth, blooming and fruit formation. |
| octane (111-65-9) | |
| Surface tension | 0.022 N/m |
| Log Koc | Koc, SRC PCKOCWIN v2.0; 436.8; Calculated value; log Koc; SRC PCKOCWIN v2.0; 2.64; Calculated value |
| 1,1,1-trichloroethane (71-55-6) | |
| Surface tension | 0.025 N/m |
| Ecology - soil | Soil contaminant. |
| toluene (108-88-3) | |
| Surface tension | 0.03 N/m (20 °C) |

12.5. Results of PBT and vPvB assessment

| Component | |
|------------------------------|---|
| butyl glycolether (111-76-2) | This substance/mixture does not meet the PBT criteria of REACH, annex XIII This substance/mixture does not meet the vPvB criteria of REACH, annex XIII |

12.6. Other adverse effects

Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Additional information : Handle empty containers with care because residual vapors are flammable.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 1993
UN-No. (IATA) : 1993
UN-No. (IMDG) : 1993
UN-No. (ADN) : 1993

14.2. UN proper shipping name

Proper Shipping Name (ADR) : FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IATA) : Flammable liquid, n.o.s.
Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (ADN) : FLAMMABLE LIQUID, N.O.S.
Transport document description (ADR) : UN 1993 FLAMMABLE LIQUID, N.O.S., 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS

14.3. Packing group

Class (ADR) : 3
Classification code (ADR) : F1
Class (IATA) : 3

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Class (IMDG) : 3
Class (ADN) : 3
Classification code (ADN) : F1
Hazard labels (ADR) : 3



Hazard labels (IATA) : 3



Hazard labels (IMDG) : 3



Hazard labels (ADN) : 3



14.4. Packing group

Packing group (ADR) : II
Packing group (IATA) : II
Packing group (IMDG) : II
Packing group (ADN) : II

14.5. Environmental hazards

Dangerous for the environment :



Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

Hazard identification number (Kemler No.) : 33
Classification code (ADR) : F1
Orange plates :



Special provision (ADR) : 274, 601, 640D
Transport category (ADR) : 2
Tunnel restriction code (ADR) : D/E
Limited quantities (ADR) : 1I
Excepted quantities (ADR) : E2

14.6.2. Transport by sea

Special provision (IMDG) : 274
Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP1, TP8, TP28

VOC Calibration Verificaion

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-E
Stowage category (IMDG) : B

14.6.3. Air transport

CAO packing instructions (IATA) : 364
CAO max net quantity (IATA) : 60L
PCA packing instructions (IATA) : 353
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1L
PCA max net quantity (IATA) : 5L
PCA Excepted quantities (IATA) : E2
Special provision (IATA) : A3
ERG code (IATA) : 3H

14.6.4. Inland waterway transport

Special provision (ADN) : 274, 601, 640D
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 1
Carriage prohibited (ADN) : No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains no REACH candidate substance
Contains no REACH Annex XIV substances.

15.1.2. National regulations

Germany

Water hazard class (WGK) : 3 - strongly hazardous to water

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

PHV SDS EU

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