502.2 Calibration Standard

Safety Data Sheet

according to Regulation (EC) No. 453/2010

Date of issue: 08/04/2014 Revision date: 13/04/2015 : Version: 1.1

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

1.1. Product identifier

Product form	:	Mixture
Product name	:	502.2 Calibration Standard
Product code	:	AL0-101200
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. 1	H224
Acute Tox. 3 (Oral)	H301
Acute Tox. 3 (Dermal)	H311
Muta. 1B	H340
Carc. 1A	H350
STOT SE 1	H370
STOT RE 2	H373
Aquatic Acute 1	H400
Aquatic Chronic 2	H411
Ozone 1	H420

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

Carc.Cat.1; R45
Muta.Cat.2; R46
F+; R12
T; R23/24/25
T; R39/23/24/25
Xn; R48/20
N; R51/53
N; R59

Full text of R-phrases: see section 16

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) :

GHS02 GHS06 GHS08 GHS09

Signal word (CLP) : Danger

Hazardous ingredients : hexachlorobuta-1,3-diene, 1,2-dibromo-3-chloropropane, 1,2,3-trichloropropane, 1,1,2,2-tetrachloroethane, 1,2-Dibromoethane, benzene, methanol, 1,3-dichloropropene, trans-, cis-1,3-Dichloropropene, bromodichloromethane, dibromomethane, 1,1,1-trichloroethane, 1,1-dichloropropene, 1,2-dichloroethane, trichloroethylene, carbon tetrachloride

Hazard statements (CLP) : H224 - Extremely flammable liquid and vapor
H301+H311 - Toxic if swallowed or in contact with skin
H340 - May cause genetic defects
H373 - May cause damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects

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 eye protection, protective clothing, protective gloves
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P308+P313 - IF exposed or concerned: Get medical advice/attention
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up

EUH phrases : EUH208 - Contains 1,3-dichloropropene, trans-(10061-02-6), 1,3-dichloropropene, (Z)-(10061-01-5). May produce an allergic reaction

No labeling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
methanol (Component)	(CAS No) 67-56-1 (EC no) 200-659-6 (EC index no) 603-001-00-X	89.2	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
1,2,3-trichlorobenzene (Component)	(CAS No) 87-61-6 (EC no) 201-757-1	0.2	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)
naphthalene (Component)	(CAS No) 91-20-3 (EC no) 202-049-5 (EC index no) 601-052-00-2	0.2	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
hexachlorobuta-1,3-diene (Component)	(CAS No) 87-68-3 (EC no) 201-765-5	0.2	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
1,2,4-trichlorobenzene (Component)	(CAS No) 120-82-1 (EC no) 204-428-0 (EC index no) 602-087-00-6	0.2	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1,2-dibromo-3-chloropropane (Component)	(CAS No) 96-12-8 (EC no) 202-479-3 (EC index no) 602-021-00-6	0.2	Acute Tox. 3 (Oral), H301 Muta. 1B, H340 Carc. 1B, H350 Repr. 1A, H360F STOT RE 2, H373 Aquatic Chronic 3, H412
1,2-dichlorobenzene (Component)	(CAS No) 95-50-1 (EC no) 202-425-9 (EC index no) 602-034-00-7	0.2	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
butylbenzene (Component)	(CAS No) 104-51-8 (EC no) 203-209-7	0.2	Flam. Liq. 3, H226 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,4-dichlorobenzene (Component)	(CAS No) 106-46-7 (EC no) 203-400-5 (EC index no) 602-035-00-2	0.2	Eye Irrit. 2, H319 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,3-dichlorbenzene (Component)	(CAS No) 541-73-1 (EC no) 208-792-1 (EC index no) 602-067-00-7	0.2	Acute Tox. 4 (Oral), H302 Aquatic Chronic 2, H411
4-Isopropyltoluene (Component)	(CAS No) 99-87-6 (EC no) 202-796-7	0.2	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
sec-butylbenzene (Component)	(CAS No) 135-98-8 (EC no) 205-227-0	0.2	Flam. Liq. 3, H226 Aquatic Chronic 2, H411
1,2,4-trimethylbenzene (Component)	(CAS No) 95-63-6 (EC no) 202-436-9 (EC index no) 601-043-00-3	0.2	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 2, H411
4-chlorotoluene (Component)	(CAS No) 106-43-4 (EC no) 203-397-0 (EC index no) 602-040-00-X	0.2	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
2-chlorotoluene (Component)	(CAS No) 95-49-8 (EC no) 202-424-3 (EC index no) 602-040-00-X	0.2	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Aquatic Chronic 2, H411
1,3,5-trimethylbenzene (Component)	(CAS No) 108-67-8 (EC no) 203-604-4 (EC index no) 601-025-00-5	0.2	Flam. Liq. 3, H226 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
Bromobenzene (Component)	(CAS No) 108-86-1 (EC no) 203-623-8 (EC index no) 602-060-00-9	0.2	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Aquatic Chronic 2, H411
n-propylbenzene (Component)	(CAS No) 103-65-1 (EC no) 203-132-9 (EC index no) 601-024-00-X	0.2	Flam. Liq. 3, H226 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
1,2,3-trichloropropane (Component) substance listed as REACH Candidate	(CAS No) 96-18-4 (EC no) 202-486-1 (EC index no) 602-062-00-X	0.2	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 4 (Inhalation), H332 Carc. 1B, H350 Repr. 1B, H360F
1,1,2,2-tetrachloroethane (Component)	(CAS No) 79-34-5 (EC no) 201-197-8 (EC index no) 602-015-00-3	0.2	Acute Tox. 3 (Oral), H301 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 Aquatic Chronic 2, H411
bromoform (Component)	(CAS No) 75-25-2 (EC no) 200-854-6 (EC index no) 602-007-00-X	0.2	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 2, H411
Isopropylbenzene (Component)	(CAS No) 98-82-8 (EC no) 202-704-5 (EC index no) 601-024-00-X	0.2	Flam. Liq. 3, H226 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
styrene (Component)	(CAS No) 100-42-5 (EC no) 202-851-5 (EC index no) 601-026-00-0	0.2	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361d STOT RE 1, H372

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
o-xylene (Component) substance with a Community workplace exposure limit	(CAS No) 95-47-6 (EC no) 202-422-2 (EC index no) 601-022-00-9	0.2	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315
p-xylene (Component) substance with a Community workplace exposure limit	(CAS No) 106-42-3 (EC no) 203-396-5 (EC index no) 601-022-00-9	0.2	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315
m-xylene (Component) substance with a Community workplace exposure limit	(CAS No) 108-38-3 (EC no) 203-576-3 (EC index no) 601-022-00-9	0.2	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315
1,1,1,2-tetrachloroethane (Component)	(CAS No) 630-20-6 (EC no) 211-135-1	0.2	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Eye Dam. 1, H318 Carc. 2, H351
ethylbenzene (Component) substance with a Community workplace exposure limit	(CAS No) 100-41-4 (EC no) 202-849-4 (EC index no) 601-023-00-4	0.2	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 STOT RE 2, H373 Asp. Tox. 1, H304
chlorobenzene (Component)	(CAS No) 108-90-7 (EC no) 203-628-5 (EC index no) 602-033-00-1	0.2	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
1,2-Dibromoethane (Component)	(CAS No) 106-93-4 (EC no) 203-444-5 (EC index no) 602-010-00-6	0.2	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 1B, H350 STOT SE 3, H335 Aquatic Chronic 2, H411
tetrachloroethylene (Component)	(CAS No) 127-18-4 (EC no) 204-825-9 (EC index no) 602-028-00-4	0.2	Carc. 2, H351 Aquatic Chronic 2, H411
1,1,2-trichloroethane (Component)	(CAS No) 79-00-5 (EC no) 201-166-9 (EC index no) 602-014-00-8	0.2	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Carc. 2, H351
benzene (Component)	(CAS No) 71-43-2 (EC no) 200-753-7 (EC index no) 601-020-00-8	0.2	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372 Asp. Tox. 1, H304
toluene (Component)	(CAS No) 108-88-3 (EC no) 203-625-9 (EC index no) 601-021-00-3	0.2	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
chloroform (Component)	(CAS No) 67-66-3 (EC no) 200-663-8 (EC index no) 602-006-00-4	0.2	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 Repr. 2, H361d STOT RE 1, H372
1,3-dichloropropene, trans- (Component)	(CAS No) 10061-02-6	0.2	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335
cis-1,3-Dichloropropene (Component)	(CAS No) 10061-01-5 (EC no) 233-195-8 (EC index no) 602-030-00-5	0.2	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
bromodichloromethane (Component)	(CAS No) 75-27-4 (EC no) 200-856-7	0.2	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 2, H341 Carc. 1B, H350 STOT SE 3, H335
Methylene Chloride (Component)	(CAS No) 75-09-2 (EC no) 200-838-9 (EC index no) 602-004-00-3	0.2	Carc. 2, H351
bromochloromethane (Component)	(CAS No) 74-97-5 (EC no) 200-826-3	0.2	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Ozone
dibromomethane (Component)	(CAS No) 74-95-3 (EC no) 200-824-2 (EC index no) 602-003-00-8	0.2	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Inhalation), H332 Aquatic Chronic 3, H412
1,1,1-trichloroethane (Component)	(CAS No) 71-55-6 (EC no) 200-756-3 (EC index no) 602-013-00-2	0.2	Acute Tox. 4 (Inhalation), H332 Ozone 1, H420
1,1-dichloropropene (Component)	(CAS No) 563-58-6 (EC no) 209-253-3 (EC index no) 602-031-00-0	0.2	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Aquatic Chronic 3, H412
1,2-dichloroethane (Component) substance listed as REACH Candidate substance listed in REACH Annex XIV (1,2-dichloroethane (EDC))	(CAS No) 107-06-2 (EC no) 203-458-1 (EC index no) 602-012-00-7	0.2	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 1B, H350 STOT SE 3, H335
trichloroethylene (Component) substance listed as REACH Candidate substance listed in REACH Annex XIV	(CAS No) 79-01-6 (EC no) 201-167-4 (EC index no) 602-027-00-9	0.2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 2, H341 Carc. 1B, H350 STOT SE 3, H336 Aquatic Chronic 3, H412
carbon tetrachloride (Component)	(CAS No) 56-23-5 (EC no) 200-262-8 (EC index no) 602-008-00-5	0.2	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Carc. 2, H351 STOT RE 1, H372 Aquatic Chronic 3, H412 Ozone 1, H420
1,1-dichloroethene (Component)	(CAS No) 75-35-4 (EC no) 200-864-0 (EC index no) 602-025-00-8	0.2	Flam. Liq. 1, H224 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Carc. 2, H351
1,1-dichloroethane (Component) substance with a Community workplace exposure limit	(CAS No) 75-34-3 (EC no) 200-863-5 (EC index no) 602-011-00-1	0.2	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412

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
1,3,5-trimethylbenzene (Component)	(CAS No) 108-67-8 (EC no) 203-604-4 (EC index no) 601-025-00-5	(C >= 25) STOT SE 3, H335
carbon tetrachloride (Component)	(CAS No) 56-23-5 (EC no) 200-262-8 (EC index no) 602-008-00-5	(0.2 =< C < 1) STOT RE 2, H373 (C >= 1) STOT RE 1, H372

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. Call a POISON CENTER or doctor/physician. 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.

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.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Immediately call a poison center or doctor/physician.

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

Symptoms/injuries after inhalation : May cause cancer by inhalation.

Symptoms/injuries after skin contact : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin.

Symptoms/injuries after ingestion : Toxic if swallowed. 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 : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Extremely 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 : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

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. Take precautionary measures against static discharge. Use only non-sparking tools. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so.

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 : 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 products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1,4-dichlorobenzene (106-46-7)		
USA OSHA	OSHA PEL (TWA) (mg/m³)	450 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	75 ppm
USA OSHA	OSHA PEL (STEL) (mg/m³)	675 mg/m³
USA OSHA	OSHA PEL (STEL) (ppm)	110 ppm

chlorobenzene (108-90-7)		
USA OSHA	OSHA PEL (TWA) (mg/m³)	350 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	75 mppcf

benzene (71-43-2)		
USA OSHA	OSHA PEL (TWA) (ppm)	10 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	25 ppm

8.2. Exposure controls

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

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Safety glasses. Avoid all unnecessary exposure.

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 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.

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) : Extremely 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

10.2. Chemical stability

Not established. Extremely 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. Sparks. Heat. Overheating. Open flame.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Toxic in contact with skin.

502.2 Calibration Standard	
ATE CLP (oral)	100.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight

1,2,3-trichlorobenzene (87-61-6)	
LD50 oral rat	1800 mg/kg (Rat)
ATE CLP (oral)	1800.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight

naphthalene (91-20-3)	
LD50 oral rat	> 1100 mg/kg (Rat)
LD50 dermal rat	> 2500 mg/kg (Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit)
ATE CLP (oral)	500.000 mg/kg body weight

hexachlorobuta-1,3-diene (87-68-3)	
LD50 oral rat	90 mg/kg (Rat)
LD50 dermal rabbit	1211 mg/kg (Rabbit)
ATE CLP (oral)	90.000 mg/kg body weight
ATE CLP (dermal)	1211.000 mg/kg body weight

1,2,4-trichlorobenzene (120-82-1)	
LD50 oral rat	756 mg/kg (Rat)
LD50 dermal rat	6139 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	> 4.1 mg/l/4h (Rat)
ATE CLP (oral)	756.000 mg/kg body weight
ATE CLP (dermal)	6139.000 mg/kg body weight

1,2-dibromo-3-chloropropane (96-12-8)	
LD50 oral rat	170 mg/kg (Rat)
ATE CLP (oral)	170.000 mg/kg body weight

1,2-dichlorobenzene (95-50-1)	
LD50 oral rat	500 mg/kg (Rat)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	9.5 mg/l/4h (Rat)
ATE CLP (oral)	500.000 mg/kg body weight
ATE CLP (vapors)	9.500 mg/l/4h
ATE CLP (dust, mist)	9.500 mg/l/4h

butylbenzene (104-51-8)	
LD50 oral rat	> 5000 mg/kg (Rat)

1,4-dichlorobenzene (106-46-7)	
LD50 dermal rat	> 6000 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	> 5 mg/l/4h (Rat)

1,3-dichlorbenzene (541-73-1)	
LD50 oral rat	580 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value)
LC50 inhalation rat (mg/l)	> 17.6 mg/l/4h (Rat; Literature study)
ATE CLP (oral)	580.000 mg/kg body weight

4-Isopropyltoluene (99-87-6)	
LD50 oral rat	4750 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	28 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	5000 ppm/4h (Rat)
ATE CLP (oral)	4750.000 mg/kg body weight
ATE CLP (gases)	5000.000 ppmV/4h
ATE CLP (vapors)	28.000 mg/l/4h
ATE CLP (dust, mist)	28.000 mg/l/4h

sec-butylbenzene (135-98-8)	
LD50 oral rat	6300 mg/kg (Rat)
LD50 dermal rabbit	> 13000 mg/kg (Rabbit)
ATE CLP (oral)	6300.000 mg/kg body weight

1,2,4-trimethylbenzene (95-63-6)	
LD50 oral rat	> 5000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature; 6000 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rat	> 3440 mg/kg (Rat; Read-across; OECD 402: Acute Dermal Toxicity)
LC50 inhalation rat (mg/l)	18 mg/l/4h (Rat)
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	18.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

4-chlorotoluene (106-43-4)	
LD50 oral rat	2100 mg/kg (Rat)
LD50 dermal rat	> 5000 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
ATE CLP (oral)	2100.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

2-chlorotoluene (95-49-8)	
LD50 oral rat	> 2000 mg/kg (Rat)
LD50 dermal rat	> 1083 mg/kg (Rat)
LD50 dermal rabbit	> 7940 mg/kg (Rabbit)
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

1,3,5-trimethylbenzene (108-67-8)	
LD50 oral rat	6000 mg/kg body weight (Rat; Equivalent or similar to OECD 401; Read-across)
LD50 dermal rat	> 2000 mg/kg bw/day (Rat; Read-across; Equivalent or similar to OECD 402)
LC50 inhalation rat (mg/l)	24 mg/l/4h (Rat; Literature study)
ATE CLP (oral)	6000.000 mg/kg body weight
ATE CLP (vapors)	24.000 mg/l/4h
ATE CLP (dust, mist)	24.000 mg/l/4h

Bromobenzene (108-86-1)	
LD50 oral rat	2383 mg/kg (Rat)
ATE CLP (oral)	2383.000 mg/kg body weight

n-propylbenzene (103-65-1)	
LD50 oral rat	6040 mg/kg (Rat; Literature study)
ATE CLP (oral)	6040.000 mg/kg body weight

1,2,3-trichloropropane (96-18-4)	
LD50 oral rat	442 mg/kg (Rat)
LD50 dermal rabbit	850 mg/kg (Rabbit)
ATE CLP (oral)	442.000 mg/kg body weight
ATE CLP (dermal)	850.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

1,1,2,2-tetrachloroethane (79-34-5)	
LD50 oral rat	250 mg/kg (Rat; Literature study)
LD50 dermal rabbit	3990 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	8.6 mg/l/4h (Rat; Literature study)
ATE CLP (oral)	250.000 mg/kg body weight
ATE CLP (dermal)	5.000 mg/kg body weight
ATE CLP (gases)	100.000 ppmV/4h
ATE CLP (vapors)	8.600 mg/l/4h
ATE CLP (dust, mist)	0.050 mg/l/4h

bromoform (75-25-2)	
LD50 oral rat	933 mg/kg (Rat)
ATE CLP (oral)	933.000 mg/kg body weight
ATE CLP (gases)	700.000 ppmV/4h
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	0.500 mg/l/4h

Isopropylbenzene (98-82-8)	
LD50 oral rat	> 2000 mg/kg (Rat; Other; Literature study; 4000 mg/kg bodyweight; Rat; Other; Inconclusive, insufficient data)
LD50 dermal rabbit	10578 mg/kg (Rabbit; Literature study; Other)
LC50 inhalation rat (mg/l)	40 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	8000 ppm/4h (Rat; Literature study)
ATE CLP (dermal)	10578.000 mg/kg body weight
ATE CLP (gases)	8000.000 ppmV/4h
ATE CLP (vapors)	40.000 mg/l/4h
ATE CLP (dust, mist)	40.000 mg/l/4h

styrene (100-42-5)	
LD50 oral rat	5000 mg/kg (Rat; Literature study; >6000 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rat	2820 mg/kg (Rat; Literature study; OECD 402: Acute Dermal Toxicity; >2000 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	5010 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	12 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	2770 ppm/4h (Rat; Literature study)
ATE CLP (oral)	5000.000 mg/kg body weight
ATE CLP (dermal)	2820.000 mg/kg body weight
ATE CLP (gases)	2770.000 ppmV/4h
ATE CLP (vapors)	12.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

o-xylene (95-47-6)	
LD50 oral rat	3608 mg/kg (Rat)
ATE CLP (oral)	3608.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

p-xylene (106-42-3)	
LD50 oral rat	4030 mg/kg (Rat)
LC50 inhalation rat (mg/l)	20 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	4740 ppm/4h (Rat)
ATE CLP (oral)	4030.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight
ATE CLP (gases)	4740.000 ppmV/4h
ATE CLP (vapors)	20.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

m-xylene (108-38-3)	
LD50 oral rat	5011 - 6630 mg/kg (Rat)
ATE CLP (oral)	5011.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h

m-xylene (108-38-3)	
ATE CLP (dust, mist)	1.500 mg/l/4h

1,1,1,2-tetrachloroethane (630-20-6)	
LD50 oral rat	670 mg/kg (Rat; Literature study)
LD50 dermal rabbit	20000 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	14 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	2100 ppm/4h (Rat; Literature study)
ATE CLP (oral)	670.000 mg/kg body weight
ATE CLP (dermal)	20000.000 mg/kg body weight
ATE CLP (gases)	2100.000 ppmV/4h
ATE CLP (vapors)	14.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

ethylbenzene (100-41-4)	
LD50 oral rat	3500 mg/kg (Rat; Other; Experimental value)
LD50 dermal rabbit	15415 mg/kg (Rabbit; Literature study; Other; 15432 mg/kg; Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	17.8 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	4000 ppm/4h (Rat; Literature study)
ATE CLP (oral)	3500.000 mg/kg body weight
ATE CLP (dermal)	15415.000 mg/kg body weight
ATE CLP (gases)	4000.000 ppmV/4h
ATE CLP (vapors)	17.800 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

chlorobenzene (108-90-7)	
LD50 oral rat	> 1427 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value; >2000 mg/kg bodyweight; Rat)
LD50 dermal rat	> 2000 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 2200 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	17 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	3630 ppm/4h (Rat)
ATE CLP (gases)	3630.000 ppmV/4h
ATE CLP (vapors)	17.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

1,2-Dibromoethane (106-93-4)	
LD50 oral rat	108 mg/kg (Rat)
LD50 dermal rat	300 mg/kg (Rat)
LD50 dermal rabbit	300 mg/kg (Rabbit)
ATE CLP (oral)	108.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight
ATE CLP (gases)	700.000 ppmV/4h
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	0.500 mg/l/4h

tetrachloroethylene (127-18-4)	
LD50 oral rat	> 2000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; 3835 mg/kg bodyweight; Rat; Equivalent or similar to OECD 401; Experimental value; 3005 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	> 3000 mg/kg (Rabbit; Literature study; >10000 mg/kg bodyweight; Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	27.58 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	3786 ppm/4h (Rat; Experimental value)
ATE CLP (gases)	3786.000 ppmV/4h
ATE CLP (vapors)	27.580 mg/l/4h
ATE CLP (dust, mist)	27.580 mg/l/4h

1,1,2-trichloroethane (79-00-5)	
LD50 oral rat	836 mg/kg (Rat; Literature study)
LD50 dermal rabbit	5377 mg/kg (Rabbit; Literature study; OECD 402: Acute Dermal Toxicity; 5380 mg/kg bodyweight; Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	7.8 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	1413 ppm/4h (Rat; Literature study)
ATE CLP (oral)	836.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight

1,1,2-trichloroethane (79-00-5)	
ATE CLP (gases)	1413.000 ppmV/4h
ATE CLP (vapors)	7.800 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

1,3-dichloropropene, trans- (10061-02-6)	
ATE CLP (oral)	100.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 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)	12223.000 mg/kg body weight

cis-1,3-Dichloropropene (10061-01-5)	
ATE CLP (oral)	100.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

dibromomethane (74-95-3)	
LD50 oral rat	108 mg/kg (Rat)
LD50 dermal rabbit	> 4000 mg/kg (Rabbit)
ATE CLP (oral)	108.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

bromodichloromethane (75-27-4)	
LD50 oral rat	916 mg/kg (Rat)
ATE CLP (oral)	916.000 mg/kg body weight

trichloroethylene (79-01-6)	
LD50 oral rat	4920 mg/kg (Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	66 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	12000 ppm/4h (Rat)
ATE CLP (oral)	4920.000 mg/kg body weight
ATE CLP (gases)	12000.000 ppmV/4h
ATE CLP (vapors)	66.000 mg/l/4h
ATE CLP (dust, mist)	66.000 mg/l/4h

benzene (71-43-2)	
LD50 oral rat	> 930 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; > 2000 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	> 8240 mg/kg (Rabbit; Experimental value; 21 CFR 191.10; > 9.4; Rabbit)
LC50 inhalation rat (mg/l)	43.767 mg/l/4h (Rat; Experimental value)
LC50 inhalation rat (ppm)	13700 ppm/4h (Rat; Experimental value)
ATE CLP (gases)	13700.000 ppmV/4h
ATE CLP (vapors)	43.767 mg/l/4h
ATE CLP (dust, mist)	43.767 mg/l/4h

1,2-dichloroethane (107-06-2)	
LD50 oral rat	770 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	2800 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	7.758 mg/l/4h (Rat; Experimental value)
LC50 inhalation rat (ppm)	1886 ppm/4h (Rat; Experimental value)
ATE CLP (oral)	770.000 mg/kg body weight
ATE CLP (dermal)	2800.000 mg/kg body weight
ATE CLP (gases)	1886.000 ppmV/4h

1,2-dichloroethane (107-06-2)	
ATE CLP (vapors)	7.758 mg/l/4h
ATE CLP (dust, mist)	7.758 mg/l/4h

carbon tetrachloride (56-23-5)	
ATE CLP (oral)	100.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight
ATE CLP (gases)	700.000 ppmV/4h
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	0.500 mg/l/4h

1,1-dichloropropene (563-58-6)	
ATE CLP (oral)	100.000 mg/kg body weight

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)	9600.000 mg/kg body weight
ATE CLP (gases)	18400.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

bromochloromethane (74-97-5)	
LD50 oral rat	5000 mg/kg (Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit)
ATE CLP (oral)	5000.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

chloroform (67-66-3)	
LD50 oral rat	695 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 908 mg/kg bodyweight; Rat; OECD 401: Acute Oral Toxicity; Experimental value; 1117 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit; Experimental value; >3980 mg/kg bodyweight; Rabbit)
LC50 inhalation rat (mg/l)	48 mg/l/4h (Rat; Literature study)
ATE CLP (oral)	695.000 mg/kg body weight
ATE CLP (gases)	700.000 ppmV/4h
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	0.500 mg/l/4h

1,1-dichloroethane (75-34-3)	
LD50 oral rat	725 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 2348 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	54 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	13000 ppm/4h (Rat; Literature study)
ATE CLP (oral)	725.000 mg/kg body weight
ATE CLP (gases)	13000.000 ppmV/4h
ATE CLP (vapors)	54.000 mg/l/4h
ATE CLP (dust, mist)	54.000 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)

1,1-dichloroethene (75-35-4)	
LD50 oral rat	200 - 1500 mg/kg (Rat)
LC50 inhalation rat (mg/l)	25.6 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	6350 ppm/4h (Rat)
ATE CLP (oral)	200.000 mg/kg body weight
ATE CLP (gases)	6350.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 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)	100.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight
ATE CLP (gases)	700.000 ppmV/4h
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	0.500 mg/l/4h

Skin corrosion/irritation : Not classified
Based on available data, the classification criteria are not met

Serious eye damage/irritation : Not classified
Based on available data, the classification criteria are not met

Respiratory or skin sensitization : Not classified
Based on available data, the classification criteria are not met

Germ cell mutagenicity : May cause genetic defects.

Carcinogenicity : May cause cancer.
May cause cancer by inhalation
May cause cancer

Reproductive toxicity : Not classified
Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Causes damage to organs.

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 : Toxic if swallowed. Toxic in contact with skin.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - air : Dangerous for the ozone layer.

Ecology - water : Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

1,2,3-trichlorobenzene (87-61-6)	
LC50 fish 1	7.05 mg/l (96 h; Leuciscus idus)
EC50 Daphnia 1	0.35 mg/l (24 h; Daphnia magna)
LC50 fish 2	0.0019 mg/l (96 h; Pisces)
EC50 Daphnia 2	2.72 mg/l (48 h; Daphnia magna)
Threshold limit algae 2	6.5 mg/l (Algae)

naphthalene (91-20-3)	
LC50 fish 1	1.99 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 1	2.16 mg/l (48 h; Daphnia magna)
EC50 other aquatic organisms 1	2.96 mg/l (4 h; Selenastrum capricornutum)
LC50 fish 2	0.11 mg/l (96 h; Oncorhynchus mykiss)
TLM fish 1	150 mg/l (96 h; Lepomis macrochirus; Cool water)
TLM fish 2	1.24 ppm (96 h; Oncorhynchus gorbuscha)
Threshold limit algae 1	0.4 mg/l (72 h; Skeletonema costatum; Growth rate)

hexachlorobuta-1,3-diene (87-68-3)	
LC50 fish 1	0.09 mg/l (96 h; Pimephales promelas)
LC50 other aquatic organisms 1	0.13 mg/l (96 h; Asellus sp.)
EC50 other aquatic organisms 1	0.87 mg/l (48 h; Mollusca)
LC50 fish 2	0.250 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 other aquatic organisms 2	0.21 mg/l (96 h; Lymnaea sp.)
TLM fish 1	0.09 mg/l (96 h; Carassius auratus)
Threshold limit other aquatic organisms 1	0.13 mg/l (96 h; Asellus sp.; Toxicity test)
Threshold limit other aquatic organisms 2	> 8 mg/l (Protozoa)

hexachlorobuta-1,3-diene (87-68-3)	
Threshold limit algae 2	> 25 mg/l (Scenedesmus quadricauda; Toxicity test)

1,2,4-trichlorobenzene (120-82-1)	
LC50 fish 1	1.32 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	0.86 mg/l (48 h; Daphnia magna; Static system)
LC50 fish 2	6.57 mg/l (96 h; Brachydanio rerio)
EC50 Daphnia 2	1.2 - 1.4 mg/l (24 h; Daphnia magna)
TLM fish 1	1 - 10,96 h; Pisces
TLM other aquatic organisms 1	1 - 10,96 h
Threshold limit algae 1	6.5 mg/l (Algae; Toxicity test)

1,2-dibromo-3-chloropropane (96-12-8)	
LC50 fish 1	35 mg/l (48 h; Oryzias latipes)
LC50 other aquatic organisms 1	24 - 57 mg/l (48 h; Mollusca)
LC50 fish 2	20 mg/l (48 h; Lepomis macrochirus)
TLM other aquatic organisms 1	10 mg/l (48 h; Mercenaria mercenaria; Eggs)
Threshold limit other aquatic organisms 1	24 - 57,48 h; Mollusca

1,2-dichlorobenzene (95-50-1)	
LC50 fish 1	1.58 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Measured concentration)
EC50 Daphnia 1	0.78 - 1.7 mg/l (24 h; Daphnia magna)
EC50 other aquatic organisms 1	13.5 mg/l (48 h; Scenedesmus subspicatus; Growth)
LC50 fish 2	5.2 mg/l (96 h; Brachydanio rerio)
EC50 Daphnia 2	0.74 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	53 mg/l (192 h; Microcystis aeruginosa; Toxicity test)
Threshold limit algae 2	0.88 mg/l (96 h; Selenastrum capricornutum)

butylbenzene (104-51-8)	
EC50 Daphnia 1	0.34 mg/l (48 h; Daphnia magna; Static system)

1,4-dichlorobenzene (106-46-7)	
LC50 fish 1	2.09 mg/l (96 h; Brachydanio rerio)
EC50 Daphnia 1	11 mg/l (48 h; Daphnia magna; Nominal concentration)
EC50 other aquatic organisms 1	28 mg/l (48 h; Scenedesmus subspicatus; Biomass)
LC50 fish 2	1.12 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	0.7 mg/l (48 h; Daphnia magna; Measured concentration)
TLM fish 1	880 mg/l 48 h; Salmo gairdneri (Oncorhynchus mykiss)
TLM fish 2	440 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
Threshold limit algae 1	16 mg/l (48 h; Scenedesmus subspicatus; Growth)
Threshold limit algae 2	13 mg/l (48 h; Scenedesmus subspicatus; Biomass)

1,3-dichlorbenzene (541-73-1)	
LC50 fish 1	1.61 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	1.2 mg/l (48 h; Daphnia magna)
LC50 fish 2	4.0 - 9.1 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 2	4.2 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	32 mg/l (96 h; Selenastrum capricornutum)
Threshold limit algae 2	7.3 mg/l (96 h; Skeletonema costatum)

4-Isopropyltoluene (99-87-6)	
LC50 fish 1	48 ppm (96 h; Cyprinodon variegatus)
EC50 Daphnia 1	6.5 mg/l (48 h; Daphnia magna)

1,2,4-trimethylbenzene (95-63-6)	
LC50 fish 1	7.72 mg/l (96 h; Pimephales promelas; Lethal)
LC50 fish 2	18 mg/l (48 h; Oryzias latipes)
Threshold limit algae 1	1 mg/l (72 h; Algae)
Threshold limit algae 2	2.356 mg/l (96 h; Algae)

4-chlorotoluene (106-43-4)	
LC50 fish 1	24 mg/l (96 h; Brachydanio rerio)
LC50 other aquatic organisms 1	1 - 10 mg/l (96 h)
EC50 Daphnia 1	0.18 mg/l (48 h; Daphnia magna)
LC50 fish 2	5.2 mg/l (48 h; Oryzias latipes)
TLM fish 1	1 - 10,96 h; Pisces
Threshold limit other aquatic organisms 1	1 - 10,96 h; Pseudomonas putida; Toxicity test

4-chlorotoluene (106-43-4)	
Threshold limit other aquatic organisms 2	15 mg/l
Threshold limit algae 1	> 100 mg/l (192 h; Scenedesmus quadricauda)

2-chlorotoluene (95-49-8)	
LC50 fish 1	9.6 mg/l (48 h; Oryzias latipes)
LC50 other aquatic organisms 1	1 - 10 mg/l (96 h)
EC50 Daphnia 1	20 - 74 mg/l (24 h; Daphnia magna)
LC50 fish 2	2.3 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
Threshold limit other aquatic organisms 1	1 - 10,96 h
Threshold limit algae 2	> 100 mg/l (Scenedesmus quadricauda)

1,3,5-trimethylbenzene (108-67-8)	
LC50 fish 1	8.6 mg/l (48 h; Oryzias latipes; Nominal concentration)
EC50 Daphnia 1	0.40 mg/l (504 h; Daphnia magna; Reproduction)
LC50 fish 2	13 mg/l (96 h; Carassius auratus)
TLM fish 1	13 mg/l (96 h; Carassius auratus)
Threshold limit algae 1	5 mg/l (Chlorophyta)
Threshold limit algae 2	25 mg/l (48 h; Scenedesmus subspicatus; Biomass)

Bromobenzene (108-86-1)	
LC50 fish 1	6.8 mg/l (48 h; Oryzias latipes)

n-propylbenzene (103-65-1)	
LC50 fish 1	1.55 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	2 mg/l (24 h; Daphnia magna; Locomotor effect)
Threshold limit algae 1	16.2 mg/l (3 h; Chlorella vulgaris; Photosynthesis)
Threshold limit algae 2	1.8 mg/l (72 h; Selenastrum capricornutum; Growth)

1,2,3-trichloropropane (96-18-4)	
LC50 fish 1	109 mg/l (48 h; Oryzias latipes)
EC50 Daphnia 1	35.4 mg/l (48 h; Daphnia magna; Static system)
LC50 fish 2	75 mg/l (96 h; Lepomis macrochirus)
Threshold limit algae 1	170 mg/l (3 h; Chlorella vulgaris; Photosynthesis)

1,1,2,2-tetrachloroethane (79-34-5)	
LC50 fish 1	21 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 1	9.32 mg/l (48 h; Daphnia magna)
LC50 fish 2	20.3 ppm (96 h; Pimephales promelas)
Threshold limit algae 1	136 mg/l (96 h; Selenastrum capricornutum)

bromoform (75-25-2)	
LC50 fish 1	29 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 1	44 mg/l (96 h; Daphnia magna)
EC50 other aquatic organisms 1	112 ppm (96 h; Selenastrum capricornutum; Cell numbers)
LC50 fish 2	7.1 mg/l (96 h; Pisces)
EC50 Daphnia 2	7.2 - 46 mg/l (48 h; Daphnia magna)
Threshold limit other aquatic organisms 1	8.5 mg/l (672 h)
Threshold limit algae 2	32 ppm (Isochrysis galbana; Cell numbers)

Isopropylbenzene (98-82-8)	
LC50 fish 1	2.7 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); GLP)
LC50 other aquatic organisms 1	10 - 100 mg/l (96 h)
EC50 Daphnia 1	2.14 mg/l (48 h; Daphnia magna; GLP)
LC50 fish 2	5.1 mg/l (96 h; Poecilia reticulata)
EC50 Daphnia 2	8 - 43 mg/l (96 h; Gammarus sp.)
TLM fish 1	10 - 100,96 h; Pisces
TLM other aquatic organisms 1	10 - 100,96 h
Threshold limit other aquatic organisms 1	10 - 100,96 h; Protozoa
Threshold limit other aquatic organisms 2	3.017 mg/l (24 h)
Threshold limit algae 1	0.92 - 1.2,Algae
Threshold limit algae 2	2.6 mg/l (72 h; Selenastrum capricornutum)

styrene (100-42-5)	
LC50 fish 1	25 mg/l (96 h; Lepomis macrochirus; GLP)
LC50 other aquatic organisms 1	10 - 100 mg/l (96 h)
EC50 Daphnia 1	23 mg/l (48 h; Daphnia magna; Locomotor effect)

styrene (100-42-5)	
LC50 fish 2	32 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 2	27 mg/l (24 h; Daphnia magna; GLP)
TLM fish 1	25.1 mg/l (96 h; Lepomis macrochirus; Soft water)
TLM fish 2	46.4 mg/l (96 h; Pimephales promelas; Soft water)
TLM other aquatic organisms 1	10 - 100,96 h
Threshold limit other aquatic organisms 1	10 - 100,96 h; Pseudomonas putida
Threshold limit other aquatic organisms 2	72 mg/l
Threshold limit algae 1	> 200 mg/l (192 h; Scenedesmus quadricauda; Inhibitory)
Threshold limit algae 2	67 mg/l (Microcystis aeruginosa; Inhibitory)

o-xylene (95-47-6)	
LC50 fish 1	12 mg/l (96 h; Poecilia reticulata)
EC50 Daphnia 1	3.820 mg/l (48 h; Daphnia magna; Locomotor effect)
EC50 other aquatic organisms 1	4.7 mg/l (72 h; Selenastrum capricornutum; Growth)
LC50 fish 2	8.05 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	3.2 mg/l (48 h; Daphnia magna; Static system)
Threshold limit algae 1	> 160 mg/l (Scenedesmus quadricauda; No specific isomer)

p-xylene (106-42-3)	
LC50 fish 1	2.6 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	3.6 mg/l (24 h; Daphnia magna)
EC50 other aquatic organisms 1	50 mg/l (Chlamydomonas angulosa; Photosynthesis)
LC50 fish 2	8.8 mg/l (96 h; Poecilia reticulata)
EC50 Daphnia 2	1.4 mg/l (48 h; Daphnia magna)
TLM fish 1	29 mg/l (96 h; Pimephales promelas)
TLM fish 2	20.9 mg/l (96 h; Lepomis macrochirus)
Threshold limit algae 2	> 160 mg/l (Scenedesmus quadricauda; No specific isomer)

m-xylene (108-38-3)	
LC50 fish 1	13 mg/l (96 h; Poecilia reticulata; Growth)
EC50 Daphnia 1	4.7 mg/l (48 h; Daphnia magna)
LC50 fish 2	8.4 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
TLM fish 1	22 ppm (96 h; Lepomis macrochirus)
Threshold limit other aquatic organisms 1	> 160 mg/l (Pseudomonas putida; No specific isomer)
Threshold limit algae 2	> 160 mg/l (Scenedesmus quadricauda; No specific isomer)

1,1,1,2-tetrachloroethane (630-20-6)	
LC50 fish 1	16 - 24 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 1	17 - 30 mg/l (48 h; Daphnia magna)

ethylbenzene (100-41-4)	
LC50 fish 1	9.09 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 1	77 mg/l (24 h; Daphnia magna)
EC50 other aquatic organisms 1	48 mg/l (72 h; Scenedesmus subspicatus)
LC50 fish 2	4.2 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	75 mg/l (48 h; Daphnia magna)
TLM fish 1	29 ppm (96 h; Lepomis macrochirus; Hard water)
TLM fish 2	42.3 mg/l (96 h; Pimephales promelas)
TLM other aquatic organisms 1	10 - 100,96 h
Threshold limit algae 1	> 160 mg/l (192 h; Scenedesmus quadricauda; Toxicity test)
Threshold limit algae 2	33 mg/l (192 h; Microcystis aeruginosa; Toxicity test)

chlorobenzene (108-90-7)	
LC50 fish 1	91 mg/l (96 h; Brachydanio rerio)
EC50 Daphnia 1	47 mg/l (48 h; Ceriodaphnia dubia; pH = 7)
LC50 fish 2	4.7 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	0.59 mg/l (48 h; Daphnia magna)
TLM fish 1	45 mg/l (96 h; Poecilia reticulata)
TLM fish 2	20 ppm (96 h; Lepomis macrochirus)
Threshold limit algae 1	< 6.8 mg/l (136 h; Selenastrum capricornutum; Growth)
Threshold limit algae 2	> 390 mg/l (168 h; Scenedesmus quadricauda; Reproduction)

1,2-Dibromoethane (106-93-4)	
LC50 fish 1	18 - 25 mg/l (96 h; Lepomis macrochirus)
LC50 other aquatic organisms 1	10 - 100 mg/l (96 h)

1,2-Dibromoethane (106-93-4)	
EC50 Daphnia 1	40 mg/l (3 h; Daphnia magna)
LC50 fish 2	4.8 mg/l (48 h; Pisces)
TLM fish 1	10 - 100,96 h; Pisces
TLM fish 2	10 - 40,72 h; Orconectes sp.
Threshold limit other aquatic organisms 1	10 - 100,96 h
Threshold limit algae 1	4 mg/l (168 h; Algae)

tetrachloroethylene (127-18-4)	
LC50 fish 1	4.99 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Locomotor effect)
EC50 Daphnia 1	8.5 mg/l (48 h; Daphnia magna; Locomotor effect)
LC50 fish 2	13 mg/l (96 h; Lepomis macrochirus)
Threshold limit algae 1	816 mg/l (96 h; Selenastrum capricornutum; Cell numbers)
Threshold limit algae 2	3.64 mg/l (72 h; Chlamydomonas angulosa; Growth rate)

1,1,2-trichloroethane (79-00-5)	
LC50 fish 1	81.6 mg/l (96 h; Pimephales promelas; Measured concentration)
EC50 Daphnia 1	32 mg/l (504 h; Daphnia magna; Locomotor effect)
EC50 other aquatic organisms 1	170 mg/l (96 h; Chlorella sp.; Growth)
LC50 fish 2	40 mg/l (96 h; Lepomis macrochirus; Nominal concentration)
EC50 Daphnia 2	77.8 mg/l (48 h; Daphnia magna; Locomotor effect)
Threshold limit algae 1	200 mg/l (72 h; Desmodesmus subspicatus; Nominal concentration)
Threshold limit algae 2	430 mg/l (192 h; Scenedesmus quadricauda; Toxicity test)

toluene (108-88-3)	
LC50 fish 1	24 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	84 mg/l (24 h; Daphnia magna; Locomotor effect)
LC50 fish 2	13 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 2	11.5 - 19.6 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	> 400 mg/l (168 h; Scenedesmus quadricauda; Toxicity test)
Threshold limit algae 2	105 mg/l (192 h; Microcystis aeruginosa)

dibromomethane (74-95-3)	
LC50 fish 1	10 - 100 mg/l (96 h; Pisces)
EC50 Daphnia 1	10 - 100 mg/l (48 h; Daphnia magna)

bromodichloromethane (75-27-4)	
LC50 fish 1	193.2 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
LC50 fish 2	202 mg/l (96 h; Lepomis macrochirus)

trichloroethylene (79-01-6)	
LC50 fish 1	40.7 mg/l (96 h; Pimephales promelas)
LC50 other aquatic organisms 1	20 mg/l (48 h; Plankton)
EC50 Daphnia 1	39 - 51 mg/l (48 h; Daphnia pulex; Static system)
LC50 fish 2	45 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 2	20.8 mg/l (48 h; Daphnia magna)
TLM fish 1	100 - 1000,96 h; Pisces
TLM other aquatic organisms 1	100 - 1000,96 h
Threshold limit other aquatic organisms 1	20 mg/l (48 h; Plankton)
Threshold limit algae 1	> 100 mg/l (Scenedesmus quadricauda)
Threshold limit algae 2	63 mg/l (Microcystis aeruginosa)

benzene (71-43-2)	
LC50 fish 1	5.3 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	18 mg/l (24 h; Daphnia magna)
LC50 fish 2	15.1 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 2	10 mg/l (48 h; Daphnia magna)
TLM fish 1	22.5 mg/l (96 h; Lepomis macrochirus; Soft water)
TLM fish 2	32 mg/l (96 h; Pimephales promelas; Hard water)
Threshold limit algae 1	100 mg/l (72 h; Pseudokirchneriella subcapitata; GLP)
Threshold limit algae 2	50 mg/l (24 h; Phaeodactylum; Photosynthesis)

1,2-dichloroethane (107-06-2)	
LC50 fish 1	118 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 1	155 - 220 mg/l (48 h; Daphnia magna; Static system)
LC50 fish 2	225 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)

1,2-dichloroethane (107-06-2)	
TLM fish 1	150 mg/l (Lagodon rhomboides)
Threshold limit algae 1	710 mg/l (Scenedesmus subspicatus)
Threshold limit algae 2	105 mg/l (192 h; Microcystis aeruginosa)

carbon tetrachloride (56-23-5)	
LC50 fish 1	27 mg/l (96 h; Lepomis macrochirus)
LC50 other aquatic organisms 1	2.37 mg/l (96 h; Rana sp.; Larvae)
EC50 Daphnia 1	29 mg/l (48 h; Daphnia magna)
EC50 other aquatic organisms 1	180 mg/l (24 h; Plankton)
LC50 fish 2	41.4 mg/l (96 h; Pimephales promelas)
EC50 other aquatic organisms 2	830 mg/l (Protozoa)
TLM fish 1	10 - 100,96 h
Threshold limit other aquatic organisms 1	2.37 mg/l (96 h; Rana sp.; Larvae)
Threshold limit algae 1	> 600 mg/l (168 h; Scenedesmus quadricauda; Toxicity test)
Threshold limit algae 2	105 mg/l (192 h; Microcystis aeruginosa; Toxicity test)

1,1-dichloropropene (563-58-6)	
LC50 fish 1	23 - 53 mg/l (96 h; Pisces; QSAR)

1,1,1-trichloroethane (71-55-6)	
LC50 fish 1	40 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 1	2.4 mg/l (408 h; Daphnia magna)
LC50 fish 2	42.3 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 2	2384 mg/l (48 h; Daphnia magna)
TLM fish 1	75 - 150,Lagodon rhomboides
Threshold limit algae 1	350 mg/l (192 h; Microcystis aeruginosa)
Threshold limit algae 2	430 mg/l (192 h; Scenedesmus quadricauda; No specific isomer)

bromochloromethane (74-97-5)	
LC50 fish 1	338 mg/l (48 h; Oryzias latipes)

chloroform (67-66-3)	
LC50 fish 1	18.2 ppm (96 h; Oncorhynchus mykiss)
EC50 Daphnia 1	6.3 mg/l (504 h; Daphnia magna; Reproduction)
LC50 fish 2	43.8 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
Threshold limit algae 1	185 mg/l (Microcystis aeruginosa; Toxicity test)
Threshold limit algae 2	1100 mg/l (Scenedesmus quadricauda; Toxicity test)

1,1-dichloroethane (75-34-3)	
LC50 fish 1	540 mg/l (96 h; Lepomis macrochirus)
LC50 fish 2	202 ppm (168 h; Poecilia reticulata)
TLM fish 1	160 mg/l (24 h; Lagodon rhomboides)

Methylene Chloride (75-09-2)	
LC50 fish 1	193 mg/l (96 h; Pimephales promelas; Flow-through system)
EC50 Daphnia 1	168.2 mg/l (48 h; Daphnia magna)
LC50 fish 2	220 mg/l (96 h; Lepomis macrochirus; Flow-through system)
Threshold limit algae 1	1450 mg/l (192 h; Scenedesmus quadricauda; Cell numbers)
Threshold limit algae 2	550 mg/l (192 h; Microcystis aeruginosa)

1,1-dichloroethene (75-35-4)	
LC50 fish 1	108 - 169 mg/l (96 h; Pimephales promelas)
LC50 other aquatic organisms 1	100 - 1000 mg/l (96 h)
EC50 Daphnia 1	11.6 - 79 mg/l (48 h; Daphnia magna)
LC50 fish 2	74 - 220 mg/l (96 h; Lepomis macrochirus)
TLM fish 1	100 - 1000,96 h; Pisces
TLM other aquatic organisms 1	100 - 1000,96 h
Threshold limit other aquatic organisms 1	100 - 1000,96 h
Threshold limit algae 1	712 mg/l (96 h; Skeletonema costatum)
Threshold limit algae 2	< 80 mg/l (96 h; Selenastrum capricornutum)

methanol (67-56-1)	
LC50 fish 1	15400 mg/l (96 h; Lepomis macrochirus; Lethal)
EC50 Daphnia 1	> 10000 mg/l (48 h; Daphnia magna; Lethal)
LC50 fish 2	10800 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	24500 mg/l (48 h; Daphnia magna; Locomotor effect)

methanol (67-56-1)	
Threshold limit other aquatic organisms 1	6600 mg/l (16 h; Pseudomonas putida)
Threshold limit algae 1	530 mg/l (192 h; Microcystis aeruginosa)
Threshold limit algae 2	8000 mg/l (168 h; Scenedesmus quadricauda)

12.2. Persistence and degradability

502.2 Calibration Standard	
Persistence and degradability	May cause long-term adverse effects in the environment.

1,2,3-trichlorobenzene (87-61-6)	
Persistence and degradability	Not readily biodegradable in water.

naphthalene (91-20-3)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Adsorbs into the soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	0 g O□ /g substance
Chemical oxygen demand (COD)	0.22 g O□ /g substance
ThOD	2.99 g O□ /g substance

hexachlorobuta-1,3-diene (87-68-3)	
Persistence and degradability	Readily biodegradable in water. Biodegradability in soil: no data available.

1,2,4-trichlorobenzene (120-82-1)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Non degradable in the soil. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	0 g O□ /g substance
BOD (% of ThOD)	0 % ThOD

1,2-dibromo-3-chloropropane (96-12-8)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil.

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 % ThOD

butylbenzene (104-51-8)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Non degradable in the soil. Adsorbs into the soil.
ThOD	3.22 g O□ /g substance
BOD (% of ThOD)	0.14 % ThOD

1,4-dichlorobenzene (106-46-7)	
Persistence and degradability	Readily biodegradable in water. Non degradable in the soil. Adsorbs into the soil.
ThOD	1.52 g O□ /g substance
BOD (% of ThOD)	0.65 % ThOD

1,3-dichlorbenzene (541-73-1)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Non degradable in the soil. Low potential for adsorption in soil.

4-Isopropyltoluene (99-87-6)	
Persistence and degradability	Readily biodegradable in water.

sec-butylbenzene (135-98-8)	
Persistence and degradability	Biodegradable in water. Forming sediments in water. Biodegradable in the soil. Adsorbs into the soil.
Chemical oxygen demand (COD)	3.219 g O□ /g substance

1,2,4-trimethylbenzene (95-63-6)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Adsorbs into the soil. Low potential for mobility in soil. Photodegradation in the air.
Chemical oxygen demand (COD)	0.44 g O□ /g substance

4-chlorotoluene (106-43-4)	
Persistence and degradability	Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	0 g O□ /g substance

2-chlorotoluene (95-49-8)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water.
ThOD	2.213 g O□ /g substance

1,3,5-trimethylbenzene (108-67-8)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Adsorption to soil is possible. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.0957 g O□ /g substance
Chemical oxygen demand (COD)	0.319 g O□ /g substance
ThOD	3.19 g O□ /g substance
BOD (% of ThOD)	0.03 % ThOD

Bromobenzene (108-86-1)	
Persistence and degradability	Not readily biodegradable in water.

n-propylbenzene (103-65-1)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil. Adsorbs into the soil.

1,2,3-trichloropropane (96-18-4)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil.

1,1,2,2-tetrachloroethane (79-34-5)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil. No (test)data on mobility of the substance available.

bromoform (75-25-2)	
Persistence and degradability	Not readily biodegradable in water.

Isopropylbenzene (98-82-8)	
Persistence and degradability	Inherently biodegradable. Not readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	1.28 g O□ /g substance
Chemical oxygen demand (COD)	2.42 g O□ /g substance
ThOD	3.20 g O□ /g substance
BOD (% of ThOD)	0.40 % ThOD

styrene (100-42-5)	
Persistence and degradability	Readily biodegradable in water. Non degradable in the soil. Low potential for adsorption in soil. Photodegradation in the air.
Chemical oxygen demand (COD)	2.80 g O□ /g substance
ThOD	3.07 g O□ /g substance
BOD (% of ThOD)	0.42 % ThOD

o-xylene (95-47-6)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Photodegradation in the air.
Biochemical oxygen demand (BOD)	1.64 g O□ /g substance
Chemical oxygen demand (COD)	2.91 g O□ /g substance
ThOD	3.125 g O□ /g substance

p-xylene (106-42-3)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Adsorbs into the soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	1.40 g O□ /g substance
Chemical oxygen demand (COD)	2.56 g O□ /g substance
ThOD	3.125 g O□ /g substance

m-xylene (108-38-3)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Photolysis in the air. Photooxidation in the air.
Biochemical oxygen demand (BOD)	2.53 g O□ /g substance
Chemical oxygen demand (COD)	2.63 g O□ /g substance
ThOD	3.1 g O□ /g substance

1,1,1,2-tetrachloroethane (630-20-6)	
Persistence and degradability	Readily biodegradable in water. No (test)data on mobility of the substance available.

ethylbenzene (100-41-4)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	1.44 g O□ /g substance (20d.)
Chemical oxygen demand (COD)	2.1 g O□ /g substance
ThOD	3.17 g O□ /g substance
BOD (% of ThOD)	(20 day(s)) 45.4

chlorobenzene (108-90-7)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil. Low potential for adsorption in soil.

chlorobenzene (108-90-7)	
Biochemical oxygen demand (BOD)	0.03 g O□ /g substance
Chemical oxygen demand (COD)	0.41 g O□ /g substance
ThOD	2.06 g O□ /g substance
BOD (% of ThOD)	0.0145 % ThOD

1,2-Dibromoethane (106-93-4)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil.

tetrachloroethylene (127-18-4)	
Persistence and degradability	Not readily biodegradable in water. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	0.06 g O□ /g substance
ThOD	0.39 g O□ /g substance
BOD (% of ThOD)	0.15 % ThOD

1,1,2-trichloroethane (79-00-5)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil. Highly mobile in soil.

1,3-dichloropropene, trans- (10061-02-6)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable 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□ /g substance
Chemical oxygen demand (COD)	2.52 g O□ /g substance
ThOD	3.13 g O□ /g substance
BOD (% of ThOD)	0.69 % ThOD

cis-1,3-Dichloropropene (10061-01-5)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil.

dibromomethane (74-95-3)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water.

bromodichloromethane (75-27-4)	
Persistence and degradability	Not readily biodegradable in water.

trichloroethylene (79-01-6)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil. Biodegradable in the soil under anaerobic conditions.

benzene (71-43-2)	
Persistence and degradability	Readily biodegradable in water. Ozonation in water. Forming sediments in water. Biodegradable in the soil. Low potential for adsorption in soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	2.18 g O□ /g substance
Chemical oxygen demand (COD)	2.15 g O□ /g substance
ThOD	3.10 g O□ /g substance
BOD (% of ThOD)	0.70 % ThOD

1,2-dichloroethane (107-06-2)	
Persistence and degradability	Not readily biodegradable in water. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.0014 g O□ /g substance
Chemical oxygen demand (COD)	1.025 g O□ /g substance
ThOD	0.98 g O□ /g substance
BOD (% of ThOD)	0.001 % ThOD

carbon tetrachloride (56-23-5)	
Persistence and degradability	Not readily biodegradable in water. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0 g O□ /g substance
Chemical oxygen demand (COD)	0.001 g O□ /g substance
ThOD	0.21 g O□ /g substance
BOD (% of ThOD)	0 % ThOD

1,1-dichloropropene (563-58-6)	
Persistence and degradability	Not readily biodegradable in water.

1,1,1-trichloroethane (71-55-6)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil.

bromochloromethane (74-97-5)	
Persistence and degradability	Not readily biodegradable in water. Biodegradability in soil: no data available.

chloroform (67-66-3)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil.
ThOD	0.33 - 1.35 g O /g substance
BOD (% of ThOD)	0.015 - 0.06 % ThOD

1,1-dichloroethane (75-34-3)	
Persistence and degradability	Not readily biodegradable in water. Not readily biodegradable in the soil. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.002 g O /g substance
ThOD	0.81 - 0.97 g O /g substance

Methylene Chloride (75-09-2)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil.

1,1-dichloroethene (75-35-4)	
Persistence and degradability	Not readily biodegradable in water.

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 /g substance
Chemical oxygen demand (COD)	1.42 g O /g substance
ThOD	1.5 g O /g substance
BOD (% of ThOD)	0.8 % ThOD

12.3. Bioaccumulative potential

502.2 Calibration Standard	
Bioaccumulative potential	Not established.

1,2,3-trichlorobenzene (87-61-6)	
BCF fish 1	2600 (Salmo gairdneri (Oncorhynchus mykiss); Chronic)
BCF fish 2	130 - 1200 (Cyprinus carpio; Chronic)
BCF other aquatic organisms 1	200 (Bacteria)
Log Pow	4.05 - 4.26
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

naphthalene (91-20-3)	
BCF fish 1	23 - 168 (8 weeks; Cyprinus carpio)
BCF fish 2	40 - 300 (672 h; Oncorhynchus mykiss)
BCF other aquatic organisms 1	331 (360 h; Ostreidae)
BCF other aquatic organisms 2	130 (24 h; Chlorella sp.)
Log Pow	3.30 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

hexachlorobuta-1,3-diene (87-68-3)	
BCF fish 1	17000 Salmo gairdneri (Oncorhynchus mykiss)
BCF fish 2	7000 (Pleuronectes platessa; Flow-through system)
BCF other aquatic organisms 1	45.36 (Procambarus sp.; Flow-through system)
BCF other aquatic organisms 2	3000 (Mytilus edulis; Flow-through system)
Log Pow	3.74 - 4.90
Bioaccumulative potential	High potential for bioaccumulation (BCF > 5000).

1,2,4-trichlorobenzene (120-82-1)	
BCF fish 1	1200 - 3700 (Salmo gairdneri (Oncorhynchus mykiss); Chronic)
BCF fish 2	1140 - 4420 (Cyprinus carpio; Test duration: 6 weeks)
BCF other aquatic organisms 1	250 (24 h; Chlorella sp.; Fresh weight)
BCF other aquatic organisms 2	142 (Daphnia magna)
Log Pow	4.02 (Experimental value)
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

1,2-dibromo-3-chloropropane (96-12-8)	
BCF fish 1	3.6 - 19 (Cyprinus carpio; Test duration: 6 weeks)
Log Pow	2.43 - 2.96
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,2-dichlorobenzene (95-50-1)	
BCF fish 1	90 - 260 (Cyprinus carpio; Test duration: 8 weeks)
BCF fish 2	270 - 560 Salmo gairdneri (Oncorhynchus mykiss)
BCF other aquatic organisms 1	14791 (Algae)
BCF other aquatic organisms 2	28840 (Callinectus sapidus)

1,2-dichlorobenzene (95-50-1)	
Log Pow	3.43 (Experimental value)
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

butylbenzene (104-51-8)	
Log Pow	4.38 (Experimental value)
Bioaccumulative potential	Bioaccumable.

1,4-dichlorobenzene (106-46-7)	
BCF fish 1	100 (Cyprinus carpio; Chronic)
BCF fish 2	214 - 720 (Salmo gairdneri (Oncorhynchus mykiss); Chronic)
BCF other aquatic organisms 1	20 (Bacteria)
Log Pow	3.39 - 3.62 (Experimental value)
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

1,3-dichlorbenzene (541-73-1)	
BCF fish 1	420 - 740 (Salmo gairdneri (Oncorhynchus mykiss); Chronic)
BCF fish 2	57 - 370 (8 weeks; Cyprinus carpio)
Log Pow	3.4 - 4.6
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

4-Isopropyltoluene (99-87-6)	
Log Pow	4.1 - 4.44

sec-butylbenzene (135-98-8)	
Log Pow	4.098 - 4.57 (Calculated)
Bioaccumulative potential	Bioaccumable.

1,2,4-trimethylbenzene (95-63-6)	
BCF fish 1	31 - 275 (8 weeks; Cyprinus carpio)
Log Pow	3.63 - 4.09 (Experimental value)
Bioaccumulative potential	Potential for bioaccumulation (4 ≥ Log Kow ≤ 5).

4-chlorotoluene (106-43-4)	
BCF fish 1	14 - 101.6 (Cyprinus carpio; Test duration: 8 weeks)
Log Pow	3.33 (Test data)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

2-chlorotoluene (95-49-8)	
BCF fish 1	20 - 112 (Cyprinus carpio; Test duration: 8 weeks)
Log Pow	3.42 (Test data)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,3,5-trimethylbenzene (108-67-8)	
BCF fish 1	23 - 342 (Cyprinus carpio; Chronic)
BCF fish 2	161 (Pimephales promelas)
Log Pow	3.42 - 4.13 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Bromobenzene (108-86-1)	
BCF fish 1	8.8 - 34 (Cyprinus carpio; Test duration: 6 weeks)
BCF fish 2	72 (Leuciscus idus)
BCF other aquatic organisms 1	190 (24 h; Chlorella sp.)
Log Pow	2.99 - 3.05
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

n-propylbenzene (103-65-1)	
Log Pow	3.69 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

1,2,3-trichloropropane (96-18-4)	
BCF fish 1	5.3 - 13 (Cyprinus carpio; Chronic)
Log Pow	2.27 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,1,2,2-tetrachloroethane (79-34-5)	
BCF fish 1	4.1 - 13.2 (Cyprinus carpio; Chronic)
BCF fish 2	7.94 (336 h; Lepomis macrochirus)
Log Pow	2.39 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

bromoform (75-25-2)	
BCF fish 1	3.2 (Carassius auratus)
BCF fish 2	7.7 - 21 (Cyprinus carpio; Test duration: 6 weeks)
BCF other aquatic organisms 1	31.7
BCF other aquatic organisms 2	8.3 - 21
Log Pow	2.37 - 2.5
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Isopropylbenzene (98-82-8)	
BCF fish 1	35.5 (Carassius auratus)
BCF other aquatic organisms 1	94.69
Log Pow	3.66 (Experimental value; 3.55; Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 23 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

styrene (100-42-5)	
BCF fish 1	35.5 (Carassius auratus)
BCF other aquatic organisms 1	74
Log Pow	2.96 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

o-xylene (95-47-6)	
BCF fish 1	21.4 (Anguilla japonica)
BCF fish 2	14.1 (Carassius auratus)
BCF other aquatic organisms 1	219 (Selenastrum capricornutum)
Log Pow	3.12 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

p-xylene (106-42-3)	
BCF fish 1	15 (Carassius auratus)
BCF fish 2	23 (240 h; Anguilla japonica)
Log Pow	3.15 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

m-xylene (108-38-3)	
BCF fish 1	15 (Carassius auratus)
BCF fish 2	24 (Anguilla japonica)
Log Pow	3.20 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,1,1,2-tetrachloroethane (630-20-6)	
Log Pow	2.93 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

ethylbenzene (100-41-4)	
BCF fish 1	1 (6 weeks; Oncorhynchus kisutch)
BCF fish 2	15 - 79 (Carassius auratus)
BCF other aquatic organisms 1	4.68 (Lamellibranchiata)
Log Pow	3.15 (Experimental value; 3.6; Experimental value; EU Method A.8: Partition Coefficient; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

chlorobenzene (108-90-7)	
BCF fish 1	447 (Pimephales promelas)
BCF fish 2	3.9 - 40 (Cyprinus carpio; Chronic)
Log Pow	2.8 - 2.98
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,2-Dibromoethane (106-93-4)	
BCF fish 1	1.6 - 14.9 (Cyprinus carpio; Test duration: 6 weeks)
BCF fish 2	6 (Pisces)
BCF other aquatic organisms 1	2.8 (Phaeophyta)
Log Pow	1.93 - 2.1
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

tetrachloroethylene (127-18-4)	
BCF fish 1	40 - 115 Salmo gairdneri (Oncorhynchus mykiss)

tetrachloroethylene (127-18-4)	
BCF fish 2	25.8 - 77.1 (8 weeks; Cyprinus carpio)
BCF other aquatic organisms 1	63 (Modiolus modiolus; Mantle, dry weight)
BCF other aquatic organisms 2	39 (Buccinum undatum; Muscles, dry weight)
Log Pow	3.40 (Experimental value; 2.53; Experimental value; Equivalent or similar to OECD 107; 23 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,1,2-trichloroethane (79-00-5)	
BCF fish 1	> > 0.7 - < 6.7,6 weeks; Cyprinus carpio; Fresh weight
Log Pow	1.89 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,3-dichloropropene, trans- (10061-02-6)	
Log Pow	2
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

toluene (108-88-3)	
BCF fish 1	13.2 (Anguilla japonica)
BCF fish 2	90 (72 h; Leuciscus idus)
BCF other aquatic organisms 1	380 (24 h; Chlorella sp.; Fresh weight)
BCF other aquatic organisms 2	4.2 (Mytilus edulis; Fresh weight)
Log Pow	2.73 (Experimental value; Other; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

cis-1,3-Dichloropropene (10061-01-5)	
Log Pow	2.06
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

dibromomethane (74-95-3)	
BCF fish 1	6 (Pimephales promelas)
Log Pow	1.22
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

bromodichloromethane (75-27-4)	
Log Pow	1.88 - 2.24
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

trichloroethylene (79-01-6)	
BCF fish 1	17 (336 h; Lepomis macrochirus)
BCF fish 2	90 (72 h; Leuciscus idus; Fresh water)
BCF other aquatic organisms 1	3440 (120 h; Selenastrum capricornutum)
BCF other aquatic organisms 2	4270 (120 h; Scenedesmus quadricauda)
Log Pow	2.29 - 2.42 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

benzene (71-43-2)	
BCF fish 1	19 Salmo gairdneri (Oncorhynchus mykiss)
BCF fish 2	< 10 (3 days; Leuciscus idus)
BCF other aquatic organisms 1	30 (24 h; Chlorella sp.; Fresh weight)
Log Pow	2.13 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,2-dichloroethane (107-06-2)	
BCF fish 1	2 (336 h; Lepomis macrochirus)
Log Pow	1.45 - 1.48 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

carbon tetrachloride (56-23-5)	
BCF fish 1	17.4 Salmo gairdneri (Oncorhynchus mykiss)
BCF fish 2	3.1 - 11 (Cyprinus carpio; Test duration: 6 weeks)
BCF other aquatic organisms 1	300 (24 h; Chlorella sp.; Fresh weight)
BCF other aquatic organisms 2	20 - 114 (Modiolus modiolus; Dry weight)
Log Pow	2.75 - 2.83 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,1-dichloropropene (563-58-6)	
Log Pow	2.67 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

1,1,1-trichloroethane (71-55-6)	
BCF fish 1	9 (672 h; Lepomis macrochirus)
BCF fish 2	0.7 - 4.9 (Cyprinus carpio; Test duration: 6 weeks)
BCF other aquatic organisms 1	0.7 - 34 (Crustacea)
BCF other aquatic organisms 2	0 - 10 (Mollusca)
Log Pow	2.46 - 2.49 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

bromochloromethane (74-97-5)	
BCF fish 1	1.7 - 3.5 (Cyprinus carpio; Test duration: 6 weeks)
Log Pow	1.41
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

chloroform (67-66-3)	
BCF fish 1	6 (336 h; Lepomis macrochirus)
BCF fish 2	1.4 - 4.7 (42 days; Cyprinus carpio)
BCF other aquatic organisms 1	224 (Pecten maximus; Mantle, dry weight)
BCF other aquatic organisms 2	438 (Modiolus modiolus; Mantle, dry weight)
Log Pow	1.97 (Experimental value; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,1-dichloroethane (75-34-3)	
BCF fish 1	1.2 (109 h; Pisces)
BCF other aquatic organisms 1	33 (Ostreidae)
Log Pow	1.79 - 1.99 (Literature study)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Methylene Chloride (75-09-2)	
BCF fish 1	2 - 40 (Cyprinus carpio; Test duration: 6 weeks)
Log Pow	1.25 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,1-dichloroethene (75-35-4)	
BCF fish 1	2.5 - 6.4 (Cyprinus carpio; Test duration: 6 weeks)
BCF fish 2	7.8 (Pisces; QSAR)
Log Pow	1.48 - 2.17
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

methanol (67-56-1)	
BCF fish 1	< 10 (72 h; Leuciscus idus)
BCF fish 2	1 (72 h; Cyprinus carpio; Blood)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

naphthalene (91-20-3)	
Surface tension	0.03 N/m (100 °C)

hexachlorobuta-1,3-diene (87-68-3)	
Ecology - soil	Soil contaminant.

1,2,4-trichlorobenzene (120-82-1)	
Surface tension	0.039 N/m (20 °C)

1,2-dichlorobenzene (95-50-1)	
Surface tension	0.037 N/m (20 °C)

butylbenzene (104-51-8)	
Surface tension	0.029 N/m (20 °C)

1,4-dichlorobenzene (106-46-7)	
Surface tension	0.030 N/m (55 °C)

1,3-dichlorbenzene (541-73-1)	
Surface tension	0.036 N/m (20 °C)

4-Isopropyltoluene (99-87-6)	
Surface tension	0.028 N/m (20 °C)

sec-butylbenzene (135-98-8)	
Surface tension	0.029 N/m (20 °C)

1,2,4-trimethylbenzene (95-63-6)	
Surface tension	0.029 N/m
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.
4-chlorotoluene (106-43-4)	
Surface tension	0.034 N/m (25 °C)
2-chlorotoluene (95-49-8)	
Surface tension	0.033 N/m (20 °C)
1,3,5-trimethylbenzene (108-67-8)	
Surface tension	0.028 N/m
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.
Bromobenzene (108-86-1)	
Surface tension	0.036 N/m
1,2,3-trichloropropane (96-18-4)	
Surface tension	0.038 N/m (20 °C)
1,1,2,2-tetrachloroethane (79-34-5)	
Surface tension	0.035 N/m (20 °C)
bromoform (75-25-2)	
Surface tension	0.045 N/m (25 °C)
styrene (100-42-5)	
Surface tension	0.032 N/m (19 °C)
o-xylene (95-47-6)	
Surface tension	0.003 N/m (25 °C)
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.
p-xylene (106-42-3)	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.
m-xylene (108-38-3)	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.
1,1,1,2-tetrachloroethane (630-20-6)	
Surface tension	0.033 N/m (20 °C)
ethylbenzene (100-41-4)	
Surface tension	0.029 N/m
chlorobenzene (108-90-7)	
Surface tension	0.033 N/m (25 °C)
1,2-Dibromoethane (106-93-4)	
Surface tension	0.038 N/m (20 °C)
tetrachloroethylene (127-18-4)	
Surface tension	0.0313 N/m (20 °C)
1,1,2-trichloroethane (79-00-5)	
Surface tension	0.033 N/m (20 °C)
toluene (108-88-3)	
Surface tension	0.03 N/m (20 °C)
trichloroethylene (79-01-6)	
Surface tension	0.03 N/m
benzene (71-43-2)	
Surface tension	0.029 N/m (20 °C)
1,2-dichloroethane (107-06-2)	
Surface tension	0.032 N/m (20 °C)
carbon tetrachloride (56-23-5)	
Surface tension	0.027 N/m (20 °C)
Ecology - soil	Soil contaminant. May be harmful to plant growth, blooming and fruit formation.
1,1,1-trichloroethane (71-55-6)	
Surface tension	0.025 N/m
Ecology - soil	Soil contaminant.

bromochloromethane (74-97-5)	
Surface tension	0.033 N/m (20 °C)
Ecology - soil	Soil contaminant.

chloroform (67-66-3)	
Surface tension	0.0271 N/m (20 °C)
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

1,1-dichloroethane (75-34-3)	
Surface tension	0.025 N/m

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.

methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)

12.5. Results of PBT and vPvB assessment

Component	
(96-18-4)	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
(107-06-2)	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
(79-01-6)	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

Waste 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. Hazardous waste due to toxicity.

SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR) : 1992

UN-No.(IATA) : 1992

14.2. UN proper shipping name

Proper Shipping Name (ADR) : FLAMMABLE LIQUID, TOXIC, N.O.S.

Proper Shipping Name (IATA) : FLAMMABLE LIQUID, TOXIC, N.O.S.

Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, TOXIC, N.O.S.

Proper Shipping Name (ADN) : FLAMMABLE LIQUID, TOXIC, N.O.S.

Transport document description (ADR) : UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (methanol(67-56-1)), 3 (6.1), II, (D/E), ENVIRONMENTALLY HAZARDOUS

14.3. Packing group

Class (ADR) : 3

Classification code (ADR) : FT1

Class (IATA) : 3

Class (IMDG) : 3

Class (ADN) : 3

Subsidiary risks (ADR) : 6.1

Hazard labels (ADR) : 3, 6.1

Hazard labels (IATA) : 3, 6.1

14.4. Packing group

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

14.5. Environmental hazards

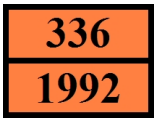
Dangerous for the environment :

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

Hazard identification number (Kemler No.) : 336
Classification code (ADR) : FT1
Orange plates :



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

14.6.2. Transport by sea

No additional information available

14.6.3. Air transport

CAO packing instructions (IATA) : 364
CAO max net quantity (IATA) : 60L
PCA packing instructions (IATA) : 352
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1L
PCA max net quantity (IATA) : 1L
PCA Excepted quantities (IATA) : E2
ERG code (IATA) : 3HP

14.6.4. Inland waterway transport

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 substances with Annex XVII restrictions

Contains substance on the candidate list in concentration ≥ 0.1% or with a lower specific limit: 1,2,3-Trichloropropane (EC 202-486-1, CAS 96-18-4), 1,2-dichloroethane (EC 203-458-1, CAS 107-06-2), Trichloroethylene (EC 201-167-4, CAS 79-01-6)

Contains REACH Annex XIV substances:

15.1.2. National regulations

No additional information available

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