VPH Matrix Spike Mix with Surogates

Safety Data Sheet

Date of issue: 17/08/2016 Revision date: : Version: 1.0

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

1.1. Product identifier

Product form : Mixture

Product name : VPH Matrix Spike Mix with Surogates

Product code : AL0-101615

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

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. 3 (Oral)	H301
Acute Tox. 3 (Dermal)	H311
Muta. 1B	H340
Carc. 1A	H350
STOT SE 1	H370

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

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

Signal word (CLP) : Danger

Hazardous ingredients : benzene; methanol

Hazard statements (CLP) : H225 - Highly flammable liquid and vapor
H301+H311 - Toxic if swallowed or in contact with skin
H340 - May cause genetic defects
H350 - May cause cancer
H370 - Causes damage to organs

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
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P308+P313 - IF exposed or concerned: Get medical advice/attention
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse
P403+P235 - Store in a well-ventilated place. Keep cool

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	98.5	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
benzene (Component)	(CAS No) 71-43-2 (EC no) 200-753-7 (EC index no) 601-020-00-8	0.1	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
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	0.1	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 STOT RE 2, H373 Asp. Tox. 1, H304
2,2,4-trimethylpentane (Component)	(CAS No) 540-84-1 (EC no) 208-759-1 (EC index no) 601-009-00-8	0.1	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
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	0.1	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315
toluene (Component)	(CAS No) 108-88-3 (EC no) 203-625-9 (EC index no) 601-021-00-3	0.1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
1,2,4-trimethylbenzene (Component)	(CAS No) 95-63-6 (EC no) 202-436-9 (EC index no) 601-043-00-3	0.1	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
naphthalene (Component)	(CAS No) 91-20-3 (EC no) 202-049-5 (EC index no) 601-052-00-2	0.1	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
tert-Butyl Methyl Ether (MTBE) (Component) substance with a Community workplace exposure limit	(CAS No) 1634-04-4 (EC no) 216-653-1 (EC index no) 603-181-00-X	0.1	Flam. Liq. 2, H225 Skin Irrit. 2, H315

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
n-pentane (Component)	(CAS No) 109-66-0 (EC no) 203-692-4 (EC index no) 601-006-00-1	0.1	Flam. Liq. 2, H225 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
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	0.1	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	0.1	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315

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. 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 : Use extinguishing media appropriate for surrounding fire.

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

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.

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. 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 : 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

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 : Avoid all unnecessary exposure. 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 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) : 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

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: Toxic if swallowed. Dermal: Toxic in contact with skin.

VPH Matrix Spike Mix with Surogates	
ATE CLP (oral)	101.523 mg/kg body weight
ATE CLP (dermal)	304.569 mg/kg body weight

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

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

2,2,4-trimethylpentane (540-84-1)	
LD50 oral rat	> 5000 mg/kg body weight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	> 2000 mg/kg body weight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity)
LC50 inhalation rat (mg/l)	> 33.52 mg/l/4h (Rat; Experimental value)

tert-Butyl Methyl Ether (MTBE) (1634-04-4)	
LD50 oral rat	4000 mg/kg (Rat)
LD50 dermal rat	> 6800 mg/kg (Rat)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	23576 ppm/4h (Rat)
ATE CLP (oral)	4000.000 mg/kg body weight
ATE CLP (gases)	23576.000 ppmV/4h
ATE CLP (vapors)	85.000 mg/l/4h
ATE CLP (dust, mist)	85.000 mg/l/4h

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

n-pentane (109-66-0)	
LD50 oral rat	> 2000 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value)

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

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

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

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
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

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

benzene (71-43-2)	
LC50 fish 1	5.3 mg/l (LC50; 96 h; Salmo gairdneri)
EC50 Daphnia 2	10 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna)
Threshold limit algae 1	100 mg/l (ErC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)
ethylbenzene (100-41-4)	
LC50 fish 2	4.2 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Salmo gairdneri; Semi-static system; Fresh water; Experimental value)
2,2,4-trimethylpentane (540-84-1)	
EC50 Daphnia 1	0.4 mg/l (EC50; Other; 48 h; Daphnia magna; Static system; Fresh water; Read-across)
Threshold limit algae 1	2.943 mg/l (EC50; Other; 72 h; Pseudokirchneriella subcapitata; Fresh water)
tert-Butyl Methyl Ether (MTBE) (1634-04-4)	
LC50 fish 1	672 - 706 mg/l (LC50; 96 h; Pimephales promelas)
EC50 Daphnia 1	651 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna)
naphthalene (91-20-3)	
EC50 Daphnia 1	2.16 mg/l (EC50; 48 h; Daphnia magna)
LC50 fish 2	0.11 mg/l (LC50; 96 h; Oncorhynchus mykiss)
Threshold limit algae 1	0.4 mg/l (EC50; 72 h; Skeletonema costatum)
1,2,4-trimethylbenzene (95-63-6)	
LC50 fish 1	7.72 mg/l (LC50; 96 h; Pimephales promelas; Flow-through system; Fresh water)
EC50 Daphnia 1	3.6 mg/l (LC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit algae 2	2.356 mg/l (EC50; ECOSAR; 96 h; Algae; Fresh water)
o-xylene (95-47-6)	
EC50 other aquatic organisms 1	4.7 mg/l (72 h; Selenastrum capricornutum; Growth)
LC50 fish 2	8.05 mg/l (LC50; 96 h)
EC50 Daphnia 2	3.2 mg/l (EC50; 48 h)
m-xylene (108-38-3)	
EC50 Daphnia 1	4.7 mg/l (EC50; 48 h)
LC50 fish 2	8.4 mg/l (LC50; 96 h)
p-xylene (106-42-3)	
LC50 fish 1	2.6 mg/l (LC50; 96 h)
EC50 Daphnia 2	1.4 mg/l (EC50; 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)

12.2. Persistence and degradability

VPH Matrix Spike Mix with Surogates	
Persistence and degradability	Not established.

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

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)	45.4 (20 days)

2,2,4-trimethylpentane (540-84-1)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil.
ThOD	3.50 g O□ /g substance

tert-Butyl Methyl Ether (MTBE) (1634-04-4)	
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

n-pentane (109-66-0)	
Persistence and degradability	Readily biodegradable in water. Low potential for adsorption in 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

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

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

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

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

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

methanol (67-56-1)	
Chemical oxygen demand (COD)	1.42 g O□ /g substance
ThOD	1.5 g O□ /g substance
BOD (% of ThOD)	0.8 (Literature study)

12.3. Bioaccumulative potential

VPH Matrix Spike Mix with Surogates	
Bioaccumulative potential	Not established.

benzene (71-43-2)	
BCF fish 1	19 (BCF)
BCF fish 2	< 10 (BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; 3 days; Leuciscus idus; Flow-through system; Fresh water; Experimental value)
BCF other aquatic organisms 1	30 (BCF; 24 h; Chlorella sp.)
Log Pow	2.13 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

ethylbenzene (100-41-4)	
BCF fish 1	1 (BCF; Other; 6 weeks; Oncorhynchus kisutch; Flow-through system; Salt water; Literature study)
BCF fish 2	15 - 79 (BCF)
BCF other aquatic organisms 1	4.68 (BCF)
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).

2,2,4-trimethylpentane (540-84-1)	
BCF fish 2	231 (BCF)
Log Pow	4.08 - 5.18 (Calculated; KOWWIN)

tert-Butyl Methyl Ether (MTBE) (1634-04-4)	
BCF fish 1	1.5 (BCF; 672 h)
Log Pow	1.06 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

naphthalene (91-20-3)	
BCF fish 1	23 - 168 (BCF; 8 weeks; Cyprinus carpio)
Log Pow	3.30 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

n-pentane (109-66-0)	
BCF fish 1	171 (BCF)
Log Pow	3.45 (Experimental value; 25 °C)
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).

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

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

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

p-xylene (106-42-3)	
BCF fish 1	15 (BCF)
BCF fish 2	23 (BCF; 240 h)

p-xylene (106-42-3)	
Log Pow	3.15 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

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).

12.4. Mobility in soil

benzene (71-43-2)	
Surface tension	0.029 N/m (20 °C)
Log Koc	Koc,134.1; QSAR

ethylbenzene (100-41-4)	
Surface tension	0.029 N/m
Log Koc	log Koc,PCKOCWIN v1.66; 2.71; Calculated value; Koc; PCKOCWIN v1.66; 517.8; Calculated value

2,2,4-trimethylpentane (540-84-1)	
Log Koc	log Koc,SRC PCKOCWIN v2.0; 2.58; Calculated value; Koc; SRC PCKOCWIN v2.0; 240.3; Calculated value

tert-Butyl Methyl Ether (MTBE) (1634-04-4)	
Surface tension	0.020 N/m (20 °C)

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

n-pentane (109-66-0)	
Surface tension	0.015 N/m (25 °C; 100 %; 0.013 N/m; 20 °C)
Log Koc	log Koc,2.9; QSAR

toluene (108-88-3)	
Surface tension	0.03 N/m (20 °C)

1,2,4-trimethylbenzene (95-63-6)	
Surface tension	0.029 N/m
Log Koc	log Koc,3.04; Calculated value
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

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.

m-xylene (108-38-3)	
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.

methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)
Log Koc	Koc,PCKOCWIN v1.66; 1; Calculated value

12.5. Results of PBT and vPvB assessment

No additional information available

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.
Transport document description (ADR) : UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (FLAMMABLE LIQUID, TOXIC, N.O.S.), 3 (6.1), II, (D/E)

14.3. Packing group

Class (ADR) : 3
Classification code (ADR) : FT1
Class (IATA) : 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

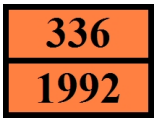
14.5. Environmental hazards

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

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 no REACH candidate substance

Contains no 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