

SOM 2.4 Surrogate Mix

Safety Data Sheet

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

Date of issue: 18/01/2018

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 : SOM 2.4 Surrogate Mix
Product code : AL0-130163
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. 3	H226
Acute Tox. 3 (Oral)	H301
Acute Tox. 4 (Dermal)	H312
Muta. 1B	H340
Carc. 1A	H350
Aquatic Chronic 3	H412

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

Carc.Cat.3; R40

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) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

H226 - Flammable liquid and vapor
H301 - Toxic if swallowed

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	H312 - Harmful in contact with skin H340 - May cause genetic defects H350 - May cause cancer H412 - Harmful 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 P270 - Do not eat, drink or smoke when using this product P273 - Avoid release to the environment P280 - Wear protective gloves/protective clothing/eye protection/face protection P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water P308+P313 - IF exposed or concerned: Get medical advice/attention P362+P364 - Take off contaminated clothing and wash it before reuse P370+P378 - In case of fire: Use media other than water to extinguish P403+P235 - Store in a well-ventilated place. Keep cool P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation
EUH phrases	: EUH208 - Contains 4-Chloroaniline-d4(191656-33-4), 4,6-Dinitro-2-methylphenol-d2(93951-76-9). May produce an allergic reaction
No labeling applicable	

2.3. Other hazards

Contains PBT substances >= 0.1% assessed in accordance with REACH, Annex XIII

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Methylene Chloride (Component)	(CAS No) 75-09-2 (EC-No.) 200-838-9 (EC index no) 602-004-00-3	96.8	Carc. 2, H351
Anthracene-d10 (Component)	(CAS No) 1719-06-8 (EC-No.) 217-004-5	0.2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Benzo(a)pyrene-d12 (Component)	(CAS No) 63466-71-7	0.2	Eye Dam. 1, H318 Muta. 1B, H340 Carc. 1B, H350 Repr. 1B, H360 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
Bis(2-Chloroethyl)ether-d8 (Component)	(CAS No) 93952-02-4	0.2	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Acute Tox. 1 (Dermal), H310 Acute Tox. 1 (Inhalation), H330 Carc. 2, H351
4-Chloroaniline-d4 (Component)	(CAS No) 191656-33-4	0.2	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 4 (Inhalation), H332 Skin Sens. 1, H317 Carc. 1A, H350 Aquatic Acute 1, H400 (M=10)
nitrobenzene-D5 (Component) substance listed as REACH Candidate (Nitrobenzene)	(CAS No) 4165-60-0 (EC-No.) 224-014-3 (EC index no) 609-003-00-7	0.2	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Carc. 2, H351 Repr. 1B, H360F STOT RE 1, H372 Aquatic Chronic 3, H412
2,4-Dichlorophenol-d3 (Component)	(CAS No) 93951-74-7	0.2	Acute Tox. 1 (Oral), H300 Acute Tox. 3 (Dermal), H311 Skin Corr. 1, H314 Eye Dam. 1, H318 Aquatic Chronic 2, H411
Dimethylphthalate-d6 (Component)	(CAS No) 85448-30-2	0.2	Repr. 1A, H360

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
4,6-Dinitro-2-methylphenol-d2 (Component)	(CAS No) 93951-76-9	0.2	Acute Tox. 1 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 1 (Inhalation), H330 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Fluorene-d10 (Component)	(CAS No) 81103-79-9 (EC-No.) 201-695-5	0.2	Carc. 1A, H350 Aquatic Chronic 2, H411
4-Methylphenol-d8 (Component)	(CAS No) 190780-66-6	0.2	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Skin Corr. 1, H314
4-Nitrophenol-d4 (Component)	(CAS No) 93951-79-2	0.2	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332
Phenol (Component)	(CAS No) 4165-62-2 (EC-No.) 203-632-7 (EC index no) 604-001-00-2	0.2	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1B, H314 Muta. 2, H341 STOT RE 2, H373

Name	Product identifier	Specific concentration limits
Phenol (Component)	(CAS No) 4165-62-2 (EC-No.) 203-632-7 (EC index no) 604-001-00-2	(1 =<C < 3) Eye Irrit. 2, H319 (1 =<C < 3) Skin Irrit. 2, H315 (C >= 3) Skin Corr. 1B, H314

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Allow victim to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. 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	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
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/effects after inhalation	: May cause cancer by inhalation.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
Symptoms/effects 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	: 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.

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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.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. 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 : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.

Storage conditions : 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

Anthracene-d10 (1719-06-8)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	0.2 mg/m ³
Bis(2-Chloroethyl)ether-d8 (93952-02-4)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	5 ppm
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	10 ppm
4,6-Dinitro-2-methylphenol-d2 (93951-76-9)		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m ³)	0.2 mg/m ³
4-Methylphenol-d8 (190780-66-6)		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m ³)	20 mg/m ³
nitrobenzene-D5 (4165-60-0)		
EU	IOELV TWA (mg/m ³)	1 mg/m ³ (Nitrobenzene; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	0.2 ppm (Nitrobenzene; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
Belgium	Limit value (mg/m ³)	1 mg/m ³ (Nitrobenzène; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	0.2 ppm (Nitrobenzène; Belgium; Time-weighted average exposure limit 8 h)
France	VME (mg/m ³)	1 mg/m ³ (Nitrobenzène; France; Time-weighted average exposure limit 8 h; VRI: Valeur réglementaire indicative)

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nitrobenzene-D5 (4165-60-0)		
France	VME (ppm)	0.2 ppm (Nitrobenzène; France; Time-weighted average exposure limit 8 h; VRI: Valeur réglementaire indicative)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	1 ppm (Nitrobenzene; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Netherlands	Grenswaarde TGG 8H (mg/m ³)	1 mg/m ³ (Nitrobenzeen; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 8H (ppm)	0.2 ppm (Nitrobenzeen; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
United Kingdom	WEL TWA (mg/m ³)	1 mg/m ³ Nitrobenzene; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	0.2 ppm Nitrobenzene; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
Phenol (4165-62-2)		
EU	IOELV TWA (mg/m ³)	8 mg/m ³ (Phenol; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	2 ppm (Phenol; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV STEL (mg/m ³)	16 mg/m ³ (Phenol; EU; Short time value; Indicative occupational exposure limit value)
EU	IOELV STEL (ppm)	4 ppm (Phenol; EU; Short time value; Indicative occupational exposure limit value)
Belgium	Limit value (mg/m ³)	8 mg/m ³ (Phénol; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	2 ppm (Phénol; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Short time value (mg/m ³)	16 mg/m ³ (Phénol; Belgium; Short time value)
Belgium	Short time value (ppm)	4 ppm (Phénol; Belgium; Short time value)
France	VLE (mg/m ³)	15.6 mg/m ³ (Phénol; France; Short time value; VRC: Valeur réglementaire contraignante)
France	VLE (ppm)	4 ppm (Phénol; France; Short time value; VRC: Valeur réglementaire contraignante)
France	VME (mg/m ³)	7.8 mg/m ³ (Phénol; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VME (ppm)	2 ppm (Phénol; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	5 ppm (Phenol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Netherlands	Grenswaarde TGG 8H (mg/m ³)	8 mg/m ³ (Fenol; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 8H (ppm)	2 ppm (Fenol; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
United Kingdom	WEL TWA (mg/m ³)	7.8 mg/m ³ Phenol; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	2 ppm Phenol; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (mg/m ³)	16 mg/m ³ Phenol; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (ppm)	4 ppm Phenol; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
Methylene Chloride (75-09-2)		
Belgium	Limit value (mg/m ³)	177 mg/m ³ (Chlorure de méthylène; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	50 ppm (Chlorure de méthylène; Belgium; Time-weighted average exposure limit 8 h)

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Methylene Chloride (75-09-2)		
France	VLE (mg/m ³)	356 mg/m ³ (Dichlorométhane; France; Short time value; VRC: Valeur réglementaire contraignante)
France	VLE (ppm)	100 ppm (Dichlorométhane; France; Short time value; VRC: Valeur réglementaire contraignante)
France	VME (mg/m ³)	178 mg/m ³ (Dichlorométhane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VME (ppm)	50 ppm (Dichlorométhane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50 ppm (Dichloromethane (Methylene chloride); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
United Kingdom	WEL TWA (mg/m ³)	350 mg/m ³ Dichloromethane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	100 ppm Dichloromethane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (mg/m ³)	1060 mg/m ³ Dichloromethane; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (ppm)	300 ppm Dichloromethane; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)

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

: Wear appropriate mask.

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)	: 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

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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

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. Overheating. Heat. Sparks.

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: Harmful in contact with skin.

SOM 2.4 Surrogate Mix	
ATE CLP (oral)	123.8712824099 mg/kg body weight
ATE CLP (dermal)	1207.4888660757 mg/kg body weight
Bis(2-Chloroethyl)ether-d8 (93952-02-4)	
LD50 oral rat	75 mg/kg
LD50 dermal rabbit	90 mg/kg
LC50 inhalation rat (mg/l)	330 mg/m ³
ATE CLP (oral)	75 mg/kg body weight
ATE CLP (dermal)	5 mg/kg body weight
ATE CLP (gases)	10 ppmV/4h
ATE CLP (vapors)	0.05 mg/l/4h
ATE CLP (dust, mist)	0.005 mg/l/4h
4-Chloroaniline-d4 (191656-33-4)	
LD50 oral rat	300 mg/kg
LD50 dermal rat	360 mg/kg
LC50 inhalation rat (mg/l)	2340 mg/m ³
ATE CLP (oral)	300 mg/kg body weight
ATE CLP (dermal)	360 mg/kg body weight
ATE CLP (gases)	4500 ppmV/4h
ATE CLP (vapors)	11 mg/l/4h
ATE CLP (dust, mist)	1.5 mg/l/4h
2,4-Dichlorophenol-d3 (93951-74-7)	
LD50 oral rat	47 mg/kg
LD50 dermal	790 mg/kg
ATE CLP (oral)	0.5 mg/kg body weight
ATE CLP (dermal)	300 mg/kg body weight
Dimethylphthalate-d6 (85448-30-2)	
LD50 oral rat	6800 mg/kg
LD50 dermal rabbit	> 12000 mg/kg
ATE CLP (oral)	6800 mg/kg body weight
4,6-Dinitro-2-methylphenol-d2 (93951-76-9)	
LD50 oral rat	7 mg/kg
LD50 dermal rat	200 mg/kg
LD50 dermal rabbit	1000 mg/kg
ATE CLP (oral)	0.5 mg/kg body weight
ATE CLP (dermal)	5 mg/kg body weight
ATE CLP (gases)	10 ppmV/4h
ATE CLP (vapors)	0.05 mg/l/4h
ATE CLP (dust, mist)	0.005 mg/l/4h

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4-Methylphenol-d8 (190780-66-6)	
LD50 oral rat	207 mg/kg
LD50 dermal rabbit	301 mg/kg
LC50 inhalation rat (mg/l)	> 710 mg/m ³
ATE CLP (oral)	207 mg/kg body weight
ATE CLP (dermal)	301 mg/kg body weight

nitrobenzene-D5 (4165-60-0)	
LD50 oral rat	855 mg/kg body weight (Rat; Experimental value)
LD50 dermal rabbit	760 mg/kg body weight (Rabbit; Experimental value)
ATE CLP (oral)	855 mg/kg body weight
ATE CLP (dermal)	760 mg/kg body weight

4-Nitrophenol-d4 (93951-79-2)	
LD50 oral rat	202 mg/kg
LD50 dermal rat	1024 mg/kg
ATE CLP (oral)	202 mg/kg body weight
ATE CLP (dermal)	1024 mg/kg body weight
ATE CLP (gases)	4500 ppmV/4h
ATE CLP (vapors)	11 mg/l/4h
ATE CLP (dust, mist)	1.5 mg/l/4h

Phenol (4165-62-2)	
ATE CLP (oral)	100 mg/kg body weight
ATE CLP (dermal)	300 mg/kg body weight
ATE CLP (gases)	700 ppmV/4h
ATE CLP (vapors)	3 mg/l/4h
ATE CLP (dust, mist)	0.5 mg/l/4h

Methylene Chloride (75-09-2)	
LD50 oral rat	> 2000 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit; Literature study)

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	: Not classified Based on available data, the classification criteria are not met
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	: Harmful in contact with skin. Toxic if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Harmful to aquatic life with long lasting effects.

Benzo(a)pyrene-d12 (63466-71-7)	
EC50 Daphnia 1	0.25 mg/l EC50 48h - Daphnia magna [mg/l]
EC50 other aquatic organisms 1	0.02 mg/l ErC50 72/96h algae
ErC50 (algae)	0.02 mg/l

Bis(2-Chloroethyl)ether-d8 (93952-02-4)	
LC50 fish 1	600 mg/l Lepomis macrochirus (Bluegill)

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Bis(2-Chloroethyl)ether-d8 (93952-02-4)	
EC50 Daphnia 1	240 mg/l
4-Chloroaniline-d4 (191656-33-4)	
LC50 fish 1	1.8 - 3.2 mg/l
EC50 Daphnia 1	0.04 - 0.06 mg/l
2,4-Dichlorophenol-d3 (93951-74-7)	
LC50 fish 1	1.6 - 2.6 mg/l <i>Lepomis macrochirus</i> (Bluegill)
EC50 Daphnia 1	2.7 - 3.9 mg/l
Dimethylphthalate-d6 (85448-30-2)	
LC50 fish 1	39 mg/l
EC50 Daphnia 1	46 mg/l
4,6-Dinitro-2-methylphenol-d2 (93951-76-9)	
LC50 fish 1	1.54 mg/l
EC50 Daphnia 1	2.7 mg/l
4-Methylphenol-d8 (190780-66-6)	
LC50 fish 1	7.9 mg/kg <i>Oncorhynchus mykiss</i> (Rainbow trout)
EC50 Daphnia 1	1.4 mg/l
nitrobenzene-D5 (4165-60-0)	
LC50 fish 2	92 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; <i>Brachydanio rerio</i> ; Flow-through system; Fresh water; Experimental value)
4-Nitrophenol-d4 (93951-79-2)	
LC50 fish 1	26.7 - 31.3 mg/l
EC50 Daphnia 1	3.1 - 24 mg/l
ErC50 (algae)	11 mg/l
Methylene Chloride (75-09-2)	
LC50 fish 1	193 mg/l (LC50; 96 h; <i>Pimephales promelas</i>)
EC50 Daphnia 1	168.2 mg/l (EC50; 48 h)

12.2. Persistence and degradability

SOM 2.4 Surrogate Mix	
Persistence and degradability	May cause long-term adverse effects in the environment.
nitrobenzene-D5 (4165-60-0)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	0 g O ₂ /g substance
ThOD	1.95 g O ₂ /g substance
BOD (% of ThOD)	0
Phenol (4165-62-2)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Inhibits biodegradation processes in the soil.
Biochemical oxygen demand (BOD)	1.68 g O ₂ /g substance
Chemical oxygen demand (COD)	2.28 g O ₂ /g substance
ThOD	2.38 g O ₂ /g substance
BOD (% of ThOD)	0.71
Methylene Chloride (75-09-2)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil.

12.3. Bioaccumulative potential

SOM 2.4 Surrogate Mix	
Bioaccumulative potential	Not established.
nitrobenzene-D5 (4165-60-0)	
BCF fish 1	15 (BCF; 672 h; <i>Pimephales promelas</i>)
BCF fish 2	1.6 - 7.7 (BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; 42 days; <i>Cyprinus carpio</i> ; Flow-through system; Fresh water; Experimental value; Non deuterium form)
BCF other aquatic organisms 1	24 (BCF)
Log Pow	1.85 (Calculated; 1.86; Experimental value; EU Method A.8: Partition Coefficient)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

SOM 2.4 Surrogate Mix

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Phenol (4165-62-2)	
BCF fish 1	20 (BCF)
BCF fish 2	1276 - 1496 (BCF)
BCF other aquatic organisms 1	277 (BCF)
BCF other aquatic organisms 2	3.5 - 16 (BCF)
Log Pow	1.46 (Experimental value)
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

Methylene Chloride (75-09-2)	
BCF fish 1	2 - 40 (BCF)
Log Pow	1.25 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

nitrobenzene-D5 (4165-60-0)	
Log Koc	Koc, Other; 118; Calculated value; log Koc; Other; 2.07; Calculated value

Methylene Chloride (75-09-2)	
Surface tension	0.028 N/m (20 °C)
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

12.5. Results of PBT and vPvB assessment

Component	
nitrobenzene-D5 (4165-60-0)	This substance/mixture meets the PBT criteria of REACH, annex XIII This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

12.6. Other adverse effects

Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Additional information : Handle empty containers with care because residual vapors are flammable.
Ecology - waste materials : Avoid release to the environment. 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
UN-No. (IMDG) : 1992
UN-No. (ADN) : 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., 3 (6.1), III, (D/E)

14.3. Packing group

Class (ADR) : 3
Classification code (ADR) : FT1
Class (IATA) : 3
Class (IMDG) : 3
Class (ADN) : 3
Classification code (ADN) : FT1
Subsidiary risks (ADR) : 6.1
Subsidiary risks (IMDG) : 6.1

SOM 2.4 Surrogate Mix

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Hazard labels (ADR) : 3, 6.1



Hazard labels (IATA) : 3, 6.1



Hazard labels (IMDG) : 3, 6.1



Hazard labels (ADN) : 3, 6.1



14.4. Packing group

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

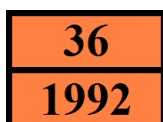
14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

Hazard identification number (Kemler No.) : 36
Classification code (ADR) : FT1
Orange plates :



Special provision (ADR) : 274
Transport category (ADR) : 3
Tunnel restriction code (ADR) : D/E
Limited quantities (ADR) : 5I
Excepted quantities (ADR) : E1

14.6.2. Transport by sea

Special provision (IMDG) : 223, 274
Limited quantities (IMDG) : 5L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP1, TP28
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-D
Stowage category (IMDG) : A
Properties and observations (IMDG) : Flammable toxic liquid which is not specified by name in this class or, on account of its characteristics, in some other class. Toxic if swallowed, by skin contact or by inhalation.

14.6.3. Air transport

CAO packing instructions (IATA) : 366
CAO max net quantity (IATA) : 220L

SOM 2.4 Surrogate Mix

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PCA packing instructions (IATA)	: 355
PCA Limited quantities (IATA)	: Y343
PCA limited quantity max net quantity (IATA)	: 2L
PCA max net quantity (IATA)	: 60L
PCA Excepted quantities (IATA)	: E1
Special provision (IATA)	: A3
ERG code (IATA)	: 3P

14.6.4. Inland waterway transport

Special provision (ADN)	: 274, 802
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EP, EX, TOX, A
Ventilation (ADN)	: VE01, VE02
Number of blue cones/lights (ADN)	: 0
Carriage prohibited (ADN)	: No

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains substance on the candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: Nitrobenzene (EC 224-014-3, CAS 4165-60-0)

Contains no REACH Annex XIV substances.

15.1.2. National regulations

Germany

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

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

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

Other information : None.

PHV SDS EU

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