

Custom Semi-Volatiles Mix

Safety Data Sheet

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

Date of issue: 18/09/2018

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 : Custom Semi-Volatiles Mix
Product code : AL0-130494
Product group : Trade product

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

1.2.1. Relevant identified uses

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. 4 (Oral)	H302
Acute Tox. 4 (Inhalation)	H332
Carc. 1B	H350
STOT RE 2	H373
Aquatic Acute 1	H400
Aquatic Chronic 3	H412

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

Carc.Cat.2; R45
F; R11
Xn; R20/22
Xn; R48/20
N; R50/53
R5
R19

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapour
H302+H332 - Harmful if swallowed or if inhaled
H350 - May cause cancer
H373 - May cause damage to organs through prolonged or repeated exposure
H410 - Very 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 protective gloves/protective clothing/eye protection/face protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P370+P378 - In case of fire: Use media other than water to extinguish.
P391 - Collect spillage.
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 alachlor(15972-60-8), atrazine(1912-24-9). May produce an allergic reaction
EUH019 - May form explosive peroxides

No labeling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
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
alachlor (Component)	(CAS-No.) 15972-60-8 (EC-No.) 240-110-8 (EC Index-No.) 616-015-00-6	0.2	Carc. 2, H351 Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
atrazine (Component)	(CAS-No.) 1912-24-9 (EC-No.) 217-617-8 (EC Index-No.) 613-068-00-7	0.2	STOT RE 2, H373 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
diphenyl (Component)	(CAS-No.) 92-52-4 (EC-No.) 202-163-5 (EC Index-No.) 601-042-00-8	0.2	Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
methyl parathion (Component)	(CAS-No.) 298-00-0 (EC-No.) 206-050-1 (EC Index-No.) 015-035-00-7	0.2	Flam. Liq. 3, H226 Acute Tox. 2 (Inhalation), H330 Acute Tox. 2 (Oral), H300 Acute Tox. 3 (Dermal), H311 STOT RE 2, H373 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N-Nitrosodiethylamine (Component)	(CAS-No.) 55-18-5 (EC-No.) 200-226-1	0.2	Carc. 1B, H350 Acute Tox. 4 (Oral), H302
N-nitrosodibutylamine (Component)	(CAS-No.) 924-16-3 (EC-No.) 213-101-1	0.2	Carc. 1B, H350 Acute Tox. 4 (Oral), H302
N-Nitrosopyrrolidine (Component)	(CAS-No.) 930-55-2 (EC-No.) 213-218-8	0.2	Carc. 1B, H350 Acute Tox. 4 (Oral), H302
2,6-dichlorophenol (Component)	(CAS-No.) 87-65-0 (EC-No.) 201-761-3	0.2	Skin Corr. 1B, H314 Aquatic Chronic 2, H411
caprolactam (Component) substance with a Community workplace exposure limit	(CAS-No.) 105-60-2 (EC-No.) 203-313-2 (EC Index-No.) 613-069-00-2	0.2	Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315
1,4-dioxane (Component)	(CAS-No.) 123-91-1 (EC-No.) 204-661-8 (EC Index-No.) 603-024-00-5	0.2	Flam. Liq. 2, H225 Carc. 2, H351 Eye Irrit. 2, H319 STOT SE 3, H335
pentachloroethane (Component)	(CAS-No.) 76-01-7 (EC-No.) 200-925-1 (EC Index-No.) 602-017-00-4	0.2	Carc. 2, H351 STOT RE 1, H372 Aquatic Chronic 2, H411
parathion (Component)	(CAS-No.) 56-38-2 (EC-No.) 200-271-7 (EC Index-No.) 015-034-00-1	0.2	Acute Tox. 2 (Inhalation), H330 Acute Tox. 2 (Oral), H300 Acute Tox. 3 (Dermal), H311 STOT RE 1, H372 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)
1,2,4,5-tetrachlorobenzene (Component)	(CAS-No.) 95-94-3 (EC-No.) 202-466-2	0.2	Aquatic Chronic 2, H411
Name	Product identifier	Specific concentration limits	
pentachloroethane (Component)	(CAS-No.) 76-01-7 (EC-No.) 200-925-1 (EC Index-No.) 602-017-00-4	(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. 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 : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing.
- 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. Call a POISON CENTER or doctor/physician if you feel unwell.

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

- Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Highly flammable liquid and vapour.
- Explosion hazard : May form flammable/explosive vapor-air mixture. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. May form explosive peroxides. Heating may cause an explosion.

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. DO NOT fight fire when fire reaches explosives. Evacuate area.
- 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. Hazardous waste due to potential risk of explosion.

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. Keep away from sources of ignition - No smoking.

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 products : Oxidizing agent.

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

alachlor (15972-60-8)		
Belgium	Limit value (mg/m ³)	1 mg/m ³ (Alachlore (vapeur et aérosol); Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	0.1 ppm (Alachlore (vapeur et aérosol); Belgium; Time-weighted average exposure limit 8 h)
Italy - Portugal - USA ACGIH	Local name	Alachlor
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³ (Alachlor; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction and vapor)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Hemosiderosis; DSEN; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure)
atrazine (1912-24-9)		
Belgium	Limit value (mg/m ³)	5 mg/m ³ (Atrazine; Belgium; Time-weighted average exposure limit 8 h)

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atrazine (1912-24-9)		
France	VME (mg/m ³)	5 mg/m ³ (Atrazine; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
Italy - Portugal - USA ACGIH	Local name	Atrazine
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (Atrazine; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	CNS convul; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure)
diphenyl (92-52-4)		
Belgium	Limit value (mg/m ³)	1.3 mg/m ³ (Biphényle; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	0.2 ppm (Biphényle; Belgium; Time-weighted average exposure limit 8 h)
France	VME (mg/m ³)	1.5 mg/m ³ (Biphényle; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
France	VME (ppm)	0.2 ppm (Biphényle; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
Italy - Portugal - USA ACGIH	Local name	Biphenyl
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	0.2 ppm (Biphenyl; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Pulm func
USA OSHA	Local name	Diphenyl (Biphenyl)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	0.2 ppm
caprolactam (105-60-2)		
EU	IOELV TWA (mg/m ³)	10 mg/m ³ (e-Caprolactam, (dust and vapour); EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV STEL (mg/m ³)	40 mg/m ³ (e-Caprolactam, (dust and vapour); EU; Short time value; Indicative occupational exposure limit value)
Belgium	Limit value (mg/m ³)	10 mg/m ³ (Caprolactame (vapeur); Belgium; Time-weighted average exposure limit 8 h; Caprolactame (poussières); 1 mg/m ³ ; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	2.2 ppm (Caprolactame (vapeur); Belgium; Time-weighted average exposure limit 8 h)
Belgium	Short time value (mg/m ³)	40 mg/m ³ (Caprolactame (vapeur); Belgium; Short time value; Caprolactame (poussières); 3 mg/m ³ ; Belgium; Short time value)
Belgium	Short time value (ppm)	8.7 ppm (Caprolactame (vapeur); Belgium; Short time value)
France	VLE (mg/m ³)	40 mg/m ³ (ε-Caprolactame (poudre et vapeur); France; Short time value; VRI: Valeur réglementaire indicative)
France	VME (mg/m ³)	10 mg/m ³ (ε-Caprolactame (poudre et vapeur); France; Time-weighted average exposure limit 8 h; VRI: Valeur réglementaire indicative)
Italy - Portugal - USA ACGIH	Local name	Caprolactam
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³ (Caprolactam; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction and vapor)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	URT irr

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caprolactam (105-60-2)		
Netherlands	Grenswaarde TGG 8H (mg/m ³)	20 mg/m ³ (1,6-Hexanolactam, damp; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value; 1,6-Hexanolactam, stof; 1 mg/m ³ ; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 8H (ppm)	5 ppm (1,6-Hexanolactam, damp; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
United Kingdom	WEL TWA (mg/m ³)	1 mg/m ³ 1,6-Hexanolactam dust only; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005); 1,6-Hexanolactam dust and vapour; 10 mg/m ³ ; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (mg/m ³)	3 mg/m ³ 1,6-Hexanolactam dust only; United Kingdom; Short time value; Workplace exposure limit (EH40/2005); 1,6-Hexanolactam dust and vapour; 20 mg/m ³ ; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
1,4-dioxane (123-91-1)		
EU	IOELV TWA (mg/m ³)	73 mg/m ³ (1,4 Dioxane; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	20 ppm (1,4 Dioxane; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
Belgium	Limit value (mg/m ³)	73 mg/m ³ (1,4-Dioxane; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	20 ppm (1,4-Dioxane; Belgium; Time-weighted average exposure limit 8 h)
France	VLE (mg/m ³)	140 mg/m ³ (1,4-Dioxane; France; Short time value; VL: Valeur non réglementaire indicative)
France	VLE (ppm)	40 ppm (1,4-Dioxane; France; Short time value; VL: Valeur non réglementaire indicative)
France	VME (mg/m ³)	73 mg/m ³ (1,4-Dioxane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VME (ppm)	20 ppm (1,4-Dioxane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
Italy - Portugal - USA ACGIH	Local name	1,4-Dioxane
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	20 ppm (1,4-Dioxane; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Liver dam
USA OSHA	Local name	Dioxane (Diethylene dioxide)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	360 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm
Netherlands	Grenswaarde TGG 8H (mg/m ³)	20 mg/m ³ (1,4-Dioxaan; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 8H (ppm)	5.46 ppm (1,4-Dioxaan; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
United Kingdom	WEL TWA (mg/m ³)	73 mg/m ³ 1,4-Dioxane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	20 ppm 1,4-Dioxane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
methyl parathion (298-00-0)		
Belgium	Limit value (mg/m ³)	0.2 mg/m ³ (Parathion-méthyl; Belgium; Time-weighted average exposure limit 8 h)
France	VME (mg/m ³)	0.2 mg/m ³ (Parathion-méthyle; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)

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methyl parathion (298-00-0)		
Italy - Portugal - USA ACGIH	Local name	Methyl parathion
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m ³)	0.02 mg/m ³ (Methyl parathion; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction and vapor)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Cholinesterase inhib
parathion (56-38-2)		
Belgium	Limit value (mg/m ³)	0.05 mg/m ³ (Parathion (vapeur et aérosol); Belgium; Time-weighted average exposure limit 8 h)
France	VME (mg/m ³)	0.1 mg/m ³ (Parathion; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
Italy - Portugal - USA ACGIH	Local name	Parathion
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m ³)	0.05 mg/m ³ (Parathion; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction and vapor)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Cholinesterase inhib
USA OSHA	Local name	Parathion
USA OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³
Methylene Chloride (75-09-2)		
Belgium	Limit value (mg/m ³)	177 mg/m ³ (Chlorure de méthylène; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	50 ppm (Chlorure de méthylène; Belgium; Time-weighted average exposure limit 8 h)
France	VLE (mg/m ³)	356 mg/m ³ (Dichlorométhane; France; Short time value; VRC: Valeur réglementaire contraignante)
France	VLE (ppm)	100 ppm (Dichlorométhane; France; Short time value; VRC: Valeur réglementaire contraignante)
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	Local name	Dichloromethane
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50 ppm (Dichloromethane (Methylene chloride); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	COHb-emia; CNS impair
USA OSHA	Local name	Methylene chloride
USA OSHA	Remark (OSHA)	(2) See Table Z-2.
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.

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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)	: Highly flammable liquid and vapour
Relative density	: No data available
Solubility	: No data available
Explosive properties	: May form explosive peroxides. Heating may cause an explosion.
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 vapour. May form flammable/explosive vapor-air mixture. Heating may cause an explosion. Extreme risk of explosion by shock, friction, fire or other sources of ignition.

10.3. Possibility of hazardous reactions

Reacts vigorously with strong oxidizers and acids.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Heat. Sparks. Overheating.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

May release flammable gases. May form explosive peroxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Inhalation: Harmful if inhaled.

Custom Semi-Volatiles Mix	
ATE CLP (oral)	744.921 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
alachlor (15972-60-8)	
LD50 oral rat	930 mg/kg (Rat)
LD50 dermal rat	> 2000 mg/kg (Rat)
LD50 dermal rabbit	3500 mg/kg (Rabbit)
ATE CLP (oral)	930 mg/kg body weight
ATE CLP (dermal)	3500 mg/kg body weight
atrazine (1912-24-9)	
LD50 oral rat	672 mg/kg (Rat)

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atrazine (1912-24-9)	
LD50 dermal rat	7500 mg/kg (Rat)
LC50 inhalation rat (mg/l)	5.2 mg/l/4h (Rat)
ATE CLP (oral)	672 mg/kg body weight
ATE CLP (dermal)	7500 mg/kg body weight
ATE CLP (vapors)	5.2 mg/l/4h
ATE CLP (dust, mist)	5.2 mg/l/4h
diphenyl (92-52-4)	
LD50 oral rat	3280 mg/kg (Rat)
LD50 dermal rabbit	2500 mg/kg (Rabbit)
ATE CLP (oral)	3280 mg/kg body weight
ATE CLP (dermal)	2500 mg/kg body weight
caprolactam (105-60-2)	
LD50 oral rat	1210 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value; 1475 mg/kg bodyweight; Rat; Equivalent or similar to OECD 401; Experimental value; 1876 mg/kg bodyweight; Rat)
LD50 dermal rat	> 2000 mg/kg (Rat; Experimental value; Other)
LD50 dermal rabbit	1438 mg/kg (Rabbit)
ATE CLP (oral)	1210 mg/kg body weight
ATE CLP (dermal)	1438 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
2,6-dichlorophenol (87-65-0)	
LD50 oral rat	2940 mg/kg (Rat; Weight of evidence)
ATE CLP (oral)	2940 mg/kg body weight
1,4-dioxane (123-91-1)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rabbit	7600 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	51 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	14250 ppm/4h (Rat)
methyl parathion (298-00-0)	
LD50 oral rat	6 mg/kg (Rat)
LD50 dermal rat	67 mg/kg (Rat)
LD50 dermal rabbit	300 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	0.034 mg/l/4h (Rat)
ATE CLP (oral)	6 mg/kg body weight
ATE CLP (dermal)	67 mg/kg body weight
ATE CLP (gases)	100 ppmV/4h
ATE CLP (vapors)	0.034 mg/l/4h
ATE CLP (dust, mist)	0.034 mg/l/4h
N-nitrosodibutylamine (924-16-3)	
LD50 oral rat	1200 mg/kg (Rat)
ATE CLP (oral)	1200 mg/kg body weight
N-Nitrosodiethylamine (55-18-5)	
LD50 oral rat	220 mg/kg (Rat)
ATE CLP (oral)	220 mg/kg body weight
N-Nitrosopyrrolidine (930-55-2)	
LD50 oral rat	900 mg/kg (Rat)
ATE CLP (oral)	900 mg/kg body weight
parathion (56-38-2)	
LD50 oral rat	2 mg/kg (Rat)
LD50 dermal rat	73 mg/kg (Rat)
LD50 dermal rabbit	40 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	0.03 mg/l/4h (Rat)
ATE CLP (oral)	2 mg/kg body weight
ATE CLP (dermal)	40 mg/kg body weight
ATE CLP (gases)	100 ppmV/4h

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parathion (56-38-2)	
ATE CLP (vapors)	0.03 mg/l/4h
ATE CLP (dust, mist)	0.03 mg/l/4h
1,2,4,5-tetrachlorobenzene (95-94-3)	
LD50 oral rat	3105 mg/kg (Rat)
ATE CLP (oral)	3105 mg/kg body weight
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	: Not classified Based on available data, the classification criteria are not met
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	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms	: Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

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

alachlor (15972-60-8)	
LC50 fish 1	1.8 mg/l (LC50; 96 h)
Threshold limit algae 1	0.35 mg/l (EC50)

atrazine (1912-24-9)	
EC50 Daphnia 1	36.5 mg/l (EC50; 48 h)
LC50 fish 2	4.5 - 8.8 mg/l (LC50; 96 h)

diphenyl (92-52-4)	
LC50 fish 1	1.5 mg/l (LC50; 96 h; Salmo gairdneri)
EC50 Daphnia 2	0.36 mg/l (LC50; 48 h)
Threshold limit algae 2	1.28 mg/l (EC50; 3 h)

caprolactam (105-60-2)	
EC50 Daphnia 1	> 1000 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit algae 2	> 1000 mg/l (ErC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)

2,6-dichlorophenol (87-65-0)	
LC50 fish 1	6.4 mg/l (LC50; 96 h; Oryzias latipes)
EC50 Daphnia 1	3.4 mg/l (EC50; 48 h; Daphnia magna)
Threshold limit algae 2	9.7 mg/l (EC50; 96 h; Chlorella vulgaris)

1,4-dioxane (123-91-1)	
EC50 Daphnia 1	8450 mg/l (EC50; 24 h)
LC50 fish 2	13000 mg/l (LC50; 96 h)
Threshold limit algae 2	5600 mg/l (EC0; 192 h)

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methyl parathion (298-00-0)	
LC50 fish 1	2.7 - 3.7 mg/l (LC50; 96 h)
EC50 Daphnia 1	0.00014 mg/l (EC50; 48 h)
N-Nitrosodiethylamine (55-18-5)	
LC50 fish 1	775 mg/l (LC50; 96 h)
parathion (56-38-2)	
EC50 Daphnia 1	0.0025 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna)
LC50 fish 2	0.75 mg/l (LC50; 96 h)
pentachloroethane (76-01-7)	
LC50 fish 1	7 mg/l (LC50; 96 h; Lepomis macrochirus)
EC50 other aquatic organisms 1	134 mg/l (96 h; Selenastrum capricornutum; Cell numbers)
Methylene Chloride (75-09-2)	
LC50 fish 1	193 mg/l (LC50; 96 h; Pimephales promelas)
EC50 Daphnia 1	168.2 mg/l (EC50; 48 h)

12.2. Persistence and degradability

Custom Semi-Volatiles Mix	
Persistence and degradability	May cause long-term adverse effects in the environment.
alachlor (15972-60-8)	
Persistence and degradability	Biodegradability in soil: no data available.
atrazine (1912-24-9)	
Persistence and degradability	Not readily biodegradable in water. Biodegradability in soil: no data available.
diphenyl (92-52-4)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water.
Biochemical oxygen demand (BOD)	1.08 g O ₂ /g substance
ThOD	3.01 g O ₂ /g substance
BOD (% of ThOD)	0.36
caprolactam (105-60-2)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 g O ₂ /g substance (20 D)
Chemical oxygen demand (COD)	0.03 g O ₂ /g substance (KMnO ₄)
2,6-dichlorophenol (87-65-0)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Adsorbs into the soil.
BOD (% of ThOD)	0.148 (3 h)
1,4-dioxane (123-91-1)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil. Photooxidation in the air.
Biochemical oxygen demand (BOD)	0 g O ₂ /g substance
ThOD	1.8 g O ₂ /g substance
BOD (% of ThOD)	0
methyl parathion (298-00-0)	
Persistence and degradability	Not readily biodegradable in water. Adsorbs into the soil. Photolysis in the air.
N-nitrosodibutylamine (924-16-3)	
Persistence and degradability	Biodegradability in water: no data available.
N-Nitrosodiethylamine (55-18-5)	
Persistence and degradability	Not readily biodegradable in water.
N-Nitrosopyrrolidine (930-55-2)	
Persistence and degradability	Biodegradability in water: no data available.
parathion (56-38-2)	
Persistence and degradability	Biodegradable in water. Forming sediments in water. Biodegradable in the soil. Adsorbs into the soil.
pentachloroethane (76-01-7)	
Persistence and degradability	Not readily biodegradable in water.
1,2,4,5-tetrachlorobenzene (95-94-3)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Adsorbs into the soil.

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Methylene Chloride (75-09-2)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil.
12.3. Bioaccumulative potential	
Custom Semi-Volatiles Mix	
Bioaccumulative potential	Not established.
atrazine (1912-24-9)	
BCF fish 1	3 - 4 (BCF)
BCF fish 2	3 - 10 (BCF)
BCF other aquatic organisms 1	52 (BCF; 24 h)
BCF other aquatic organisms 2	10 - 83 (BCF)
Log Pow	2.64
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
diphenyl (92-52-4)	
BCF fish 1	437 (BCF)
BCF other aquatic organisms 1	540 (BCF; 24 h; Chlorella sp.)
Log Pow	3.16 - 4.09
Bioaccumulative potential	Potential for bioaccumulation ($4 \geq \text{Log Kow} \leq 5$).
caprolactam (105-60-2)	
BCF other aquatic organisms 1	< 1 (BCF; Other)
Log Pow	0.12 (Experimental value; Equivalent or similar to OECD 107; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
2,6-dichlorophenol (87-65-0)	
BCF fish 1	4.1 - 20 (BCF; 8 weeks; Cyprinus carpio)
Log Pow	2.57 - 3.33 (Literature)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
1,4-dioxane (123-91-1)	
BCF fish 1	0.2 - 0.7 (BCF)
Log Pow	-0.27 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
methyl parathion (298-00-0)	
Log Pow	2.86
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
N-nitrosodibutylamine (924-16-3)	
Bioaccumulative potential	No bioaccumulation data available.
N-Nitrosodiethylamine (55-18-5)	
BCF other aquatic organisms 1	1 (BCF)
Log Pow	0.48
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
N-Nitrosopyrrolidine (930-55-2)	
Bioaccumulative potential	No bioaccumulation data available.
parathion (56-38-2)	
BCF fish 1	335 (BCF; 912 h)
BCF fish 2	462 (BCF; 72 h)
BCF other aquatic organisms 1	240 (BCF; 999 h)
BCF other aquatic organisms 2	97 (BCF; 792 h)
Log Pow	3.8
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
pentachloroethane (76-01-7)	
BCF fish 1	60 - 68 (BCF; 672 h)
BCF fish 2	67 (BCF; 336 h)
Log Pow	2.89 - 3.67 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
1,2,4,5-tetrachlorobenzene (95-94-3)	
BCF fish 1	13000 (BCF)
BCF fish 2	1650 - 4830 (BCF)
BCF other aquatic organisms 1	> 5012 (BCF)
Log Pow	4.5 - 4.98

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1,2,4,5-tetrachlorobenzene (95-94-3)	
Bioaccumulative potential	High potential for bioaccumulation (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

alachlor (15972-60-8)	
Ecology - soil	Not toxic to bees in normal conditions of use.

atrazine (1912-24-9)	
Ecology - soil	Toxic to flora. Not toxic to bees.

caprolactam (105-60-2)	
Log Koc	log Koc,Other; 1.76; Calculated value

1,4-dioxane (123-91-1)	
Surface tension	0.037 N/m (20 °C)

methyl parathion (298-00-0)	
Ecology - soil	Not toxic to plants. Toxic to bees.

parathion (56-38-2)	
Surface tension	0.039 N/m (25 °C)
Ecology - soil	Toxic to bees.

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

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

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. Hazardous waste due to potential risk of explosion.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR) : 2810
UN-No. (IATA) : 2810
UN-No. (IMDG) : 2810
UN-No. (ADN) : 2810

14.2. UN proper shipping name

Proper Shipping Name (ADR) : TOXIC LIQUID, ORGANIC, N.O.S.
Proper Shipping Name (IATA) : Toxic liquid, organic, n.o.s.
Proper Shipping Name (IMDG) : TOXIC LIQUID, ORGANIC, N.O.S.
Proper Shipping Name (ADN) : TOXIC LIQUID, ORGANIC, N.O.S.
Transport document description (ADR) : UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (dichloromethane, methylene chloride), 6.1, III, (E), ENVIRONMENTALLY HAZARDOUS

14.3. Packing group

Class (ADR) : 6.1
Classification code (ADR) : T1
Class (IATA) : 6.1
Class (IMDG) : 6.1
Class (ADN) : 6.1

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Classification code (ADN) : T1
Hazard labels (ADR) : 6.1



Division (IATA) : 6.1
Hazard labels (IATA) : 6.1



Hazard labels (IMDG) : 6.1



Hazard labels (ADN) : 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

Dangerous for the environment :

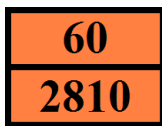


Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

Hazard identification number (Kemler No.) : 60
Classification code (ADR) : T1
Orange plates :



Special provision (ADR) : 274, 614
Transport category (ADR) : 2
Tunnel restriction code (ADR) : E
Limited quantities (ADR) : 5I
Excepted quantities (ADR) : E1
EAC : 2X
APP : B

14.6.2. Transport by sea

Special provision (IMDG) : 223, 274
Packing instructions (IMDG) : P001, LP01
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP1, TP28
EmS-No. (Fire) : F-A

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EmS-No. (Spillage) : S-A
Stowage category (IMDG) : A
Properties and observations (IMDG) : Toxic if swallowed, by skin contact or by inhalation.

14.6.3. Air transport

CAO packing instructions (IATA) : 663
CAO max net quantity (IATA) : 220L
PCA packing instructions (IATA) : 655
PCA Limited quantities (IATA) : Y642
PCA limited quantity max net quantity (IATA) : 2L
PCA max net quantity (IATA) : 60L
PCA Excepted quantities (IATA) : E1
Special provision (IATA) : A3, A4, A137
ERG code (IATA) : 6L

14.6.4. Inland waterway transport

Special provision (ADN) : 274, 614, 802
Limited quantities (ADN) : 5 L
Excepted quantities (ADN) : E1
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EP, TOX, A
Ventilation (ADN) : 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 no REACH candidate substance
Contains no REACH Annex XIV substances.

15.1.2. National regulations

Germany

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

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

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

Other information : None.

PHV SDS EU

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