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

1.1. Product identifier

Product form : Mixture
Product name : Appendix IX Mix 3
Product code : AL0-101491
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. 4 (Oral)	H302
Acute Tox. 4 (Dermal)	H312
Acute Tox. 4 (Inhalation)	H332
Carc. 1A	H350
Aquatic Chronic 3	H412

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

Carc.Cat.1; R45
F; R11
E; R3
Xn; R20/21/22
N; R51/53
R19

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 GHS07 GHS08

Signal word (CLP)	:	Danger
Hazardous ingredients	:	phenacetin
Hazard statements (CLP)	:	H225 - Highly flammable liquid and vapor H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled 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 P261 - Avoid breathing 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 P308+P313 - IF exposed or concerned: Get medical advice/attention P362+P364 - Take off contaminated clothing and wash it before reuse P403+P235 - Store in a well-ventilated place. Keep cool
EUH phrases	:	EUH208 - Contains atrazine(1912-24-9), ethyl methacrylate(97-63-2), 1,4-naphthoquinone(130-15-4), quintozene(82-68-8). 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. Substance

Not applicable

3.2. Mixture

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
Aramite (Component)	(CAS No) 140-57-8	0.1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
atrazine (Component)	(CAS No) 1912-24-9 (EC no) 217-617-8 (EC index no) 613-068-00-7	0.1	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 STOT RE 2, H373 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	0.1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
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	0.1	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
chlorobenzilate (Component)	(CAS No) 510-15-6 (EC no) 208-110-2 (EC index no) 607-159-00-0	0.1	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1-chloronaphthalene (Component)	(CAS No) 90-13-1 (EC no) 201-967-3	0.1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 2, H411
di-allate (Component)	(CAS No) 2303-16-4 (EC no) 218-961-1 (EC index no) 006-019-00-0	0.1	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,6-dichlorophenol (Component)	(CAS No) 87-65-0 (EC no) 201-761-3	0.1	Skin Corr. 1B, H314 Aquatic Chronic 2, H411
1,4-dioxane (Component)	(CAS No) 123-91-1 (EC no) 204-661-8 (EC index no) 603-024-00-5	0.1	Flam. Liq. 2, H225 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Diphenyl Ether (Component)	(CAS No) 101-84-8 (EC no) 202-981-2	0.1	STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
ethyl methacrylate (Component)	(CAS No) 97-63-2 (EC no) 202-597-5 (EC index no) 607-071-00-2	0.1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335
ethyl methanesulfonate (Component)	(CAS No) 62-50-0 (EC no) 200-536-7	0.1	Acute Tox. 4 (Oral), H302 Carc. 1B, H350
hexachloropropene (Component)	(CAS No) 1888-71-7 (EC no) 217-560-9	0.1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
isodrin (Component)	(CAS No) 465-73-6 (EC no) 207-366-2 (EC index no) 602-050-00-4	0.1	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410
chlordecone (Component)	(CAS No) 143-50-0 (EC no) 205-601-3 (EC index no) 606-019-00-6	0.1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Carc. 2, H351 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
3-methylcholanthrene (Component)	(CAS No) 56-49-5 (EC no) 200-276-4	0.1	Carc. 1B, H350
methyl methanesulfonate (Component)	(CAS No) 66-27-3 (EC no) 200-625-0	0.1	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 1B, H350 STOT SE 3, H335
1,4-naphthoquinone (Component)	(CAS No) 130-15-4 (EC no) 204-977-6	0.1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335
4-Nitroquinoline N-oxide (Component)	(CAS No) 56-57-5 (EC no) 200-281-1	0.1	Acute Tox. 2 (Oral), H300
pentachlorobenzene (Component)	(CAS No) 608-93-5 (EC no) 210-172-0 (EC index no) 602-074-00-5	0.1	Flam. Sol. 1, H228 Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
quintozene (Component)	(CAS No) 82-68-8 (EC no) 201-435-0 (EC index no) 609-043-00-5	0.1	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
phenacetin (Component)	(CAS No) 62-44-2 (EC no) 200-533-0	0.1	Carc. 1A, H350 STOT RE 1, H372
propyzamide (Component)	(CAS No) 23950-58-5 (EC no) 245-951-4 (EC index no) 616-055-00-4	0.1	Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
safrole (Component)	(CAS No) 94-59-7 (EC no) 202-345-4 (EC index no) 605-020-00-9	0.1	Acute Tox. 4 (Oral), H302 Muta. 2, H341 Carc. 1B, H350
1,2,4,5-tetrachlorobenzene (Component)	(CAS No) 95-94-3 (EC no) 202-466-2	0.1	Aquatic Chronic 2, H411
1,3,5-trinitrobenzene (Component)	(CAS No) 99-35-4 (EC no) 202-752-7 (EC index no) 609-005-00-8	0.1	Expl. 1.1, H201 Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
pentachloroethane	(CAS No) 76-01-7 (EC no) 200-925-1 (EC index no) 602-017-00-4	0.1	Carc. 2, H351 STOT RE 1, H372 Aquatic Chronic 2, H411

Name	Product identifier	Specific concentration limits
pentachloroethane	(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. 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 persist.

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/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. Harmful in contact with skin.

Symptoms/injuries 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 vapor.

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.

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.

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

No additional information available

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)	:	Highly flammable liquid and vapor
Relative density	:	No data available
Solubility	:	No data available
Explosive properties	:	May form explosive peroxides.
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

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. Dermal: Harmful in contact with skin. Inhalation: Harmful if inhaled.

Appendix IX Mix 3	
ATE CLP (oral)	500.000 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

Aramite (140-57-8)	
LD50 oral rat	3900 mg/kg (Rat)
ATE CLP (oral)	3900.000 mg/kg body weight

atrazine (1912-24-9)	
LD50 oral rat	672 mg/kg (Rat)
LD50 dermal rat	7500 mg/kg (Rat)
LC50 inhalation rat (mg/l)	5.2 mg/l/4h (Rat)
ATE CLP (oral)	672.000 mg/kg body weight
ATE CLP (dermal)	7500.000 mg/kg body weight
ATE CLP (vapors)	5.200 mg/l/4h
ATE CLP (dust, mist)	5.200 mg/l/4h

diphenyl (92-52-4)	
LD50 oral rat	3280 mg/kg (Rat)
LD50 dermal rabbit	2500 mg/kg (Rabbit)
ATE CLP (oral)	3280.000 mg/kg body weight
ATE CLP (dermal)	2500.000 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)	1210.000 mg/kg body weight
ATE CLP (dermal)	1438.000 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

chlorobenzilate (510-15-6)	
LD50 oral rat	700 mg/kg (Rat)
LD50 dermal rat	> 10000 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)
ATE CLP (oral)	700.000 mg/kg body weight

1-chloronaphthalene (90-13-1)	
LD50 oral rat	1540 mg/kg (Rat)
ATE CLP (oral)	1540.000 mg/kg body weight

di-allate (2303-16-4)	
LD50 oral rat	395 mg/kg (Rat)
LD50 dermal rabbit	2000 mg/kg (Rabbit)
ATE CLP (oral)	395.000 mg/kg body weight
ATE CLP (dermal)	2000.000 mg/kg body weight

2,6-dichlorophenol (87-65-0)	
LD50 oral rat	2940 mg/kg (Rat; Weight of evidence)
ATE CLP (oral)	2940.000 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)
ATE CLP (dermal)	7600.000 mg/kg body weight
ATE CLP (gases)	14250.000 ppmV/4h
ATE CLP (vapors)	51.000 mg/l/4h
ATE CLP (dust, mist)	51.000 mg/l/4h

Diphenyl Ether (101-84-8)	
LD50 oral rat	3370 mg/kg (Rat)
LD50 dermal rat	4000 mg/kg (Rat)
LD50 dermal rabbit	> 7940 mg/kg (Rabbit)
ATE CLP (oral)	3370.000 mg/kg body weight
ATE CLP (dermal)	4000.000 mg/kg body weight

ethyl methacrylate (97-63-2)	
LD50 oral rat	14800 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	38 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	8300 ppm/4h (Rat)
ATE CLP (oral)	14800.000 mg/kg body weight
ATE CLP (gases)	8300.000 ppmV/4h
ATE CLP (vapors)	38.000 mg/l/4h
ATE CLP (dust, mist)	38.000 mg/l/4h

ethyl methanesulfonate (62-50-0)	
ATE CLP (oral)	500.000 mg/kg body weight

isodrin (465-73-6)	
LD50 oral rat	7.0 mg/kg (Rat)
LD50 dermal rat	23 mg/kg (Rat)
ATE CLP (oral)	7.000 mg/kg body weight
ATE CLP (dermal)	23.000 mg/kg body weight
ATE CLP (gases)	100.000 ppmV/4h
ATE CLP (vapors)	0.500 mg/l/4h
ATE CLP (dust, mist)	0.050 mg/l/4h

chlordecone (143-50-0)	
LD50 oral rat	95 mg/kg (Rat)
LD50 dermal rabbit	345 mg/kg (Rabbit)
ATE CLP (oral)	95.000 mg/kg body weight
ATE CLP (dermal)	345.000 mg/kg body weight

methyl methanesulfonate (66-27-3)	
LD50 oral rat	225 mg/kg (Rat)
ATE CLP (oral)	225.000 mg/kg body weight

1,4-naphthoquinone (130-15-4)	
LD50 oral rat	190 mg/kg (Rat; Experimental value)
LD50 dermal rat	202 mg/kg (Rat; Experimental value)
ATE CLP (oral)	190.000 mg/kg body weight
ATE CLP (dermal)	202.000 mg/kg body weight

4-Nitroquinoline N-oxide (56-57-5)	
LD50 oral rat	12.6 mg/kg Subcutaneous
ATE CLP (oral)	12.600 mg/kg body weight

pentachlorobenzene (608-93-5)	
LD50 oral rat	1080 mg/kg (Rat)
ATE CLP (oral)	1080.000 mg/kg body weight

quintozene (82-68-8)	
LD50 oral rat	1100 mg/kg (Rat)
LD50 dermal rat	4000 mg/kg (Rat)
ATE CLP (oral)	1100.000 mg/kg body weight
ATE CLP (dermal)	4000.000 mg/kg body weight

phenacetin (62-44-2)	
LD50 oral rat	> 1000 mg/kg (Rat)

propyzamide (23950-58-5)	
LD50 oral rat	3350 mg/kg (Rat)
LD50 dermal rat	> 3160 mg/kg (Rat)
ATE CLP (oral)	3350.000 mg/kg body weight

safrole (94-59-7)	
LD50 oral rat	1950 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)
ATE CLP (oral)	1950.000 mg/kg body weight

1,2,4,5-tetrachlorobenzene (95-94-3)	
LD50 oral rat	3105 mg/kg (Rat)
ATE CLP (oral)	3105.000 mg/kg body weight

1,3,5-trinitrobenzene (99-35-4)	
LD50 oral rat	275 mg/kg (Rat)
ATE CLP (oral)	5.000 mg/kg body weight
ATE CLP (dermal)	5.000 mg/kg body weight
ATE CLP (gases)	100.000 ppmV/4h
ATE CLP (vapors)	0.500 mg/l/4h
ATE CLP (dust, mist)	0.050 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 : 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) : 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 if swallowed. Harmful in contact with skin.

SECTION 12: Ecological information

12.1. Toxicity

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

Aramite (140-57-8)	
LC50 fish 1	0.32 mg/l (LC50; 96 h)
EC50 Daphnia 1	0.16 mg/l (EC50; 48 h)

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)

chlorobenzilate (510-15-6)	
EC50 other aquatic organisms 1	0.6 mg/l (48 h; Simocephalus serrulatis; Young)

1-chloronaphthalene (90-13-1)	
LC50 fish 1	2.3 mg/l (LC50; 96 h; Lepomis macrochirus)
EC50 Daphnia 1	1.6 mg/l (LC50; 48 h)
Threshold limit algae 1	0.1 mg/l (EC0; 96 h)

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)

Diphenyl Ether (101-84-8)	
LC50 fish 1	1.7 mg/l (LC50; 96 h; Lepomis macrochirus)
EC50 Daphnia 1	0.68 mg/l (EC50; 48 h)
Threshold limit algae 1	1.7 mg/l (EC50; 96 h)

isodrin (465-73-6)	
LC50 fish 1	0.006 mg/l (LC50; 96 h)

chlordecone (143-50-0)	
LC50 fish 1	0.036 mg/l (LC50; 96 h)
EC50 Daphnia 1	0.260 mg/l (EC50; 48 h)
Threshold limit algae 1	0.35 mg/l (EC50; 168 h)

phenacetin (62-44-2)	
LC50 fish 1	335 mg/l (LC50; 48 h)

propyzamide (23950-58-5)	
EC50 other aquatic organisms 1	3.4 mg/l (120 h; Skeletonema costatum)

1,3,5-trinitrobenzene (99-35-4)	
LC50 fish 1	0.52 mg/l (LC50; 96 h)
EC50 Daphnia 1	2.7 mg/l (EC50; 48 h)
Threshold limit algae 1	0.1 mg/l (EC0; 120 h)

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)

pentachloroethane (76-01-7)	
LC50 fish 1	7.0 mg/l (LC50; 96 h; Lepomis macrochirus)
EC50 other aquatic organisms 1	134 mg/l (96 h; Selenastrum capricornutum; Cell numbers)

12.2. Persistence and degradability

Appendix IX Mix 3	
Persistence and degradability	May cause long-term adverse effects in the environment.

Aramite (140-57-8)	
Persistence and degradability	Biodegradability in water: 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□ /g substance
ThOD	3.01 g O□ /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□ /g substance (20 D)
Chemical oxygen demand (COD)	0.03 g O□ /g substance (KMnO4)
chlorobenzilate (510-15-6)	
Persistence and degradability	Not readily biodegradable in water.
1-chloronaphthalene (90-13-1)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Biodegradability in soil: no data available. Adsorbs into the soil. Photodegradation in the air.
di-allate (2303-16-4)	
Persistence and degradability	Not readily biodegradable in water.
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□ /g substance
ThOD	1.8 g O□ /g substance
BOD (% of ThOD)	0
Diphenyl Ether (101-84-8)	
Persistence and degradability	Readily biodegradable in water. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	1.68 - 2.0 g O□ /g substance
Chemical oxygen demand (COD)	2.19 - 2.5 g O□ /g substance
ThOD	2.63 g O□ /g substance
BOD (% of ThOD)	0.72
ethyl methacrylate (97-63-2)	
Persistence and degradability	Biodegradable in water.
ethyl methanesulfonate (62-50-0)	
Persistence and degradability	Biodegradability in water: no data available.
hexachloropropene (1888-71-7)	
Persistence and degradability	Biodegradability in soil: no data available.
isodrin (465-73-6)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Non degradable in the soil. Photodegradation in the air.
chlordecone (143-50-0)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Adsorbs into the soil.
3-methylcholanthrene (56-49-5)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Adsorbs into the soil.
methyl methanesulfonate (66-27-3)	
Persistence and degradability	Biodegradability in water: no data available.
1,4-naphthoquinone (130-15-4)	
Persistence and degradability	Biodegradability in soil: no data available.
Biochemical oxygen demand (BOD)	0.81 g O□ /g substance
ThOD	2.125 g O□ /g substance
BOD (% of ThOD)	0.381
pentachlorobenzene (608-93-5)	
Persistence and degradability	Not readily biodegradable in water. Biodegradability in soil: no data available.
phenacetin (62-44-2)	
Persistence and degradability	Not readily biodegradable in water.
propyzamide (23950-58-5)	
Persistence and degradability	Forming sediments in water. Biodegradable in the soil. Adsorbs into the soil. Photodegradation in the air.
safrole (94-59-7)	
Persistence and degradability	Biodegradability in water: no data available.

1,2,4,5-tetrachlorobenzene (95-94-3)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Adsorbs into the soil.

1,3,5-trinitrobenzene (99-35-4)	
Persistence and degradability	Not readily biodegradable in water.

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

pentachloroethane (76-01-7)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

Appendix IX Mix 3	
Bioaccumulative potential	Not established.

Aramite (140-57-8)	
Log Pow	4.82
Bioaccumulative potential	Bioaccumable.

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 ≥ Log Kow ≤ 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).

chlorobenzilate (510-15-6)	
BCF fish 1	224 - 709 (BCF)
Log Pow	4.74
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

1-chloronaphthalene (90-13-1)	
BCF fish 1	142 - 403 (BCF)
Log Pow	3.5
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

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).

Diphenyl Ether (101-84-8)	
BCF fish 1	49 - 594 (BCF)
BCF fish 2	195 - 470 (BCF; 168 h)
Log Pow	4.20
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

ethyl methacrylate (97-63-2)	
BCF fish 1	5 - 18 (BCF)
Log Pow	1.94
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

ethyl methanesulfonate (62-50-0)	
Bioaccumulative potential	No bioaccumulation data available.
hexachloropropene (1888-71-7)	
Bioaccumulative potential	No bioaccumulation data available.
isodrin (465-73-6)	
Log Pow	6.75 (Estimated value)
Bioaccumulative potential	Bioaccumable.
chlordecone (143-50-0)	
BCF fish 1	1100 - 2200 (BCF)
BCF fish 2	1548 - 1211 (BCF)
BCF other aquatic organisms 1	8 - 698 (BCF)
BCF other aquatic organisms 2	230 - 800 (BCF)
Log Pow	3.78 - 6.08
Bioaccumulative potential	High potential for bioaccumulation (Log Kow > 5).
3-methylcholanthrene (56-49-5)	
Log Pow	6.42
Bioaccumulative potential	Bioaccumable.
methyl methanesulfonate (66-27-3)	
Bioaccumulative potential	No bioaccumulation data available.
1,4-naphthoquinone (130-15-4)	
Log Pow	1.71 - 1.78
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
pentachlorobenzene (608-93-5)	
BCF fish 1	3000 (BCF; 72 h)
BCF fish 2	6840 (BCF)
BCF other aquatic organisms 1	16000 (BCF)
BCF other aquatic organisms 2	4000 (BCF; 24 h)
Log Pow	4.88 - 5.69
Bioaccumulative potential	High potential for bioaccumulation (BCF > 5000).
quintozene (82-68-8)	
Log Pow	4.64 - 4.89
Bioaccumulative potential	Potential for bioaccumulation ($4 \geq \text{Log Kow} \leq 5$).
phenacetin (62-44-2)	
BCF fish 1	< <3/<30,BCF
Log Pow	1.58 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
propyzamide (23950-58-5)	
BCF other aquatic organisms 1	6-20,BCF
Log Pow	3.43 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
safrole (94-59-7)	
Log Pow	3.45 (Estimated value)
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
Bioaccumulative potential	High potential for bioaccumulation (BCF > 5000).
1,3,5-trinitrobenzene (99-35-4)	
Log Pow	1.18
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
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).
pentachloroethane (76-01-7)	
BCF fish 1	60 - 68 (BCF; 672 h)

pentachloroethane (76-01-7)	
BCF fish 2	67 (BCF; 336 h)
Log Pow	2.89 - 3.67 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

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

chlorobenzilate (510-15-6)	
Ecology - soil	Not toxic to bees. May be harmful to plant growth, blooming and fruit formation.

di-allate (2303-16-4)	
Ecology - soil	Not toxic to bees.

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

Diphenyl Ether (101-84-8)	
Surface tension	0.04 N/m (30 °C)

isodrin (465-73-6)	
Ecology - soil	Soil contaminant.

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

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. 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) : 2929

UN-No.(IATA) : 2929

14.2. UN proper shipping name

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

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

Transport document description (ADR) : UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S., 6.1 (3), II, (D/E), ENVIRONMENTALLY HAZARDOUS

14.3. Packing group

Class (ADR) : 6.1

Classification code (ADR) : TF1

Class (IATA) : 6.1

Subsidiary risks (ADR) : 3

Hazard labels (ADR) : 6.1, 3

Hazard labels (IATA) : 6.1, 3

14.4. Packing group

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

14.5. Environmental hazards

Dangerous for the environment :

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

Hazard identification number (Kemler No.) : 63
Classification code (ADR) : TF1
Orange plates :

Special provision (ADR) : 274
Transport category (ADR) : 2
Tunnel restriction code (ADR) : D/E
Limited quantities (ADR) : 100ml
Excepted quantities (ADR) : E4

14.6.2. Transport by sea

No additional information available

14.6.3. Air transport

CAO packing instructions (IATA) : 662
CAO max net quantity (IATA) : 60L
PCA packing instructions (IATA) : 654
PCA Limited quantities (IATA) : Y641
PCA limited quantity max net quantity (IATA) : 1L
PCA max net quantity (IATA) : 5L
PCA Excepted quantities (IATA) : E4
Special provision (IATA) : A137
ERG code (IATA) : 6F

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