Custom Landfill/TLC Mix

Safety Data Sheet

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

Date of issue: 19/07/2017 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 Landfill/TLC Mix
Product code	:	AL0-130137
Product group	:	Trade product

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

1.2.1. Relevant identified uses

Main use category	:	Laboratory use
Industrial/Professional use spec	:	Industrial For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Phenova
6390 Joyce Dr. Suite 100
80403 Golden, CO - United States
T 1-866-942-2978 - F 1-866-283-0269
info@phenova.com - www.phenova.com

1.4. Emergency telephone number

Emergency number	:	ChemTel Assistance (US/Canada) 1-800-255-3924 ChemTel Assistance (International) +1 813-248-0585

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Liq. 2	H225
Acute Tox. 3 (Oral)	H301
Acute Tox. 3 (Dermal)	H311
Skin Sens. 1	H317
Carc. 1B	H350
STOT SE 1	H370
Aquatic Chronic 3	H412

Ozone

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

Carc.Cat.2; R45
F; R11
T; R23/24/25
T; R39/23/24/25
R43
N; R59
R19
R52/53

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS06 GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H225 - Highly flammable liquid and vapour
H301+H311 - Toxic if swallowed or in contact with skin
H317 - May cause an allergic skin reaction
H350 - May cause cancer
H370 - Causes damage to organs
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (CLP) : P201 - Obtain special instructions before use
P233 - Keep container tightly closed
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
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
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse
P403+P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

EUH-statements : EUH059 - Hazardous to the ozone layer
EUH019 - May form explosive peroxides

No labelling 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]
methanol (Component)	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X	96.8	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
1,1,2-trichloro-1,2,2-trifluoroethane (Component)	(CAS-No.) 76-13-1 (EC-No.) 200-936-1	0.2	Aquatic Chronic 2, H411 Ozone
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
acetonitrile (Component)	(CAS-No.) 75-05-8 (EC-No.) 200-835-2 (EC Index-No.) 608-001-00-3	0.2	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319
allyl chloride (Component)	(CAS-No.) 107-05-1 (EC-No.) 203-457-6 (EC Index-No.) 602-029-00-X	0.2	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 2, H341 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 Aquatic Acute 1, H400

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
acrylonitrile, inhibited (Component)	(CAS-No.) 107-13-1 (EC-No.) 203-466-5 (EC Index-No.) 608-003-00-4	0.2	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Dermal), H310 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1B, H350 STOT SE 3, H335 Aquatic Chronic 2, H411
methacrylonitrile (Component)	(CAS-No.) 126-98-7 (EC-No.) 204-817-5 (EC Index-No.) 608-010-00-2	0.2	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Sens. 1, H317
propionitrile (Component)	(CAS-No.) 107-12-0 (EC-No.) 203-464-4	0.2	Flam. Liq. 2, H225 Acute Tox. 2 (Oral), H300 Acute Tox. 2 (Dermal), H310 Eye Irrit. 2, H319
ethyl methacrylate (Component)	(CAS-No.) 97-63-2 (EC-No.) 202-597-5 (EC Index-No.) 607-071-00-2	0.2	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335
methylmethacrylate (Component)	(CAS-No.) 80-62-6 (EC-No.) 201-297-1 (EC Index-No.) 607-035-00-6	0.2	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335
cyclohexane (Component)	(CAS-No.) 110-82-7 (EC-No.) 203-806-2 (EC Index-No.) 601-017-00-1	0.2	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
methylcyclohexane (Component)	(CAS-No.) 108-87-2 (EC-No.) 203-624-3 (EC Index-No.) 601-018-00-7	0.2	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Chronic 2, H411
1,4-dichloro-2-butene, trans- (Component)	(CAS-No.) 110-57-6 (EC-No.) 203-779-7 (EC Index-No.) 602-073-00-X	0.2	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314 Carc. 1B, H350 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2-chloro-1,3-butadiene, inhibited (Component)	(CAS-No.) 126-99-8 (EC-No.) 204-818-0 (EC Index-No.) 602-036-00-8	0.2	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 1B, H350 STOT SE 3, H335 STOT RE 2, H373

Name	Product identifier	Specific concentration limits
methanol (Component)	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X	(3 =<C < 10) STOT SE 2, H371 (C >= 10) STOT SE 1, H370
methacrylonitrile (Component)	(CAS-No.) 126-98-7 (EC-No.) 204-817-5 (EC Index-No.) 608-010-00-2	(C >= 0.2) Skin Sens. 1, H317
1,4-dichloro-2-butene, trans- (Component)	(CAS-No.) 110-57-6 (EC-No.) 203-779-7 (EC Index-No.) 602-073-00-X	(C >= 0.01) Carc. 1B, H350 (C >= 5) STOT SE 3, H335

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/physician. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Immediately call a POISON CENTER or doctor/physician. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. Get medical advice/attention.

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

Symptoms/effects after skin contact : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic 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 : Highly flammable liquid and vapour.

Explosion hazard : May form flammable/explosive vapour-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 the 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. Avoid breathing dust/fume/gas/mist/vapours/spray.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : 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 vapours 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 vapour. 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing.

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 : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Colourless.
Odour	:	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.
Oxidising properties	:	No data available
Explosive 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 vapour-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: Toxic if swallowed. Dermal: Toxic in contact with skin.

Custom Landfill/TLC Mix	
ATE CLP (oral)	101.8730251711 mg/kg bodyweight
ATE CLP (dermal)	304.2789383474 mg/kg bodyweight

1,1,2-trichloro-1,2,2-trifluoroethane (76-13-1)	
LD50 oral rat	43000 mg/kg (Rat)
LD50 dermal rabbit	> 11000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	300 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	38500 ppm/4h (Rat)
ATE CLP (oral)	43000 mg/kg bodyweight
ATE CLP (gases)	38500 ppmv/4h
ATE CLP (vapours)	300 mg/l/4h
ATE CLP (dust,mist)	300 mg/l/4h

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)

acetonitrile (75-05-8)	
LD50 oral rat	> 1327 mg/kg (Rat)
LD50 dermal rabbit	980 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	27 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	16000 ppm/4h (Rat)
ATE CLP (oral)	500 mg/kg bodyweight
ATE CLP (dermal)	980 mg/kg bodyweight
ATE CLP (gases)	16000 ppmv/4h
ATE CLP (vapours)	11 mg/l/4h
ATE CLP (dust,mist)	1.5 mg/l/4h

acrylonitrile, inhibited (107-13-1)	
LD50 oral rat	78 mg/kg (Rat)
LD50 dermal rat	148 mg/kg (Rat)
LD50 dermal rabbit	63 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	0.72 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	333 ppm/4h (Rat)
ATE CLP (oral)	78 mg/kg bodyweight
ATE CLP (dermal)	63 mg/kg bodyweight
ATE CLP (gases)	333 ppmv/4h
ATE CLP (vapours)	0.72 mg/l/4h
ATE CLP (dust,mist)	0.72 mg/l/4h

allyl chloride (107-05-1)	
LD50 oral rat	425 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 275-455 mg/kg bodyweight; Rat; OECD 401: Acute Oral Toxicity; Experimental value; 379 - 419 mg/kg bodyweight; Rat)
LD50 dermal rabbit	2066 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 398 mg/kg bodyweight; Rabbit)
LC50 inhalation rat (mg/l)	6.7 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	2100 ppm/4h (Rat)
ATE CLP (oral)	425 mg/kg bodyweight
ATE CLP (dermal)	1100 mg/kg bodyweight
ATE CLP (gases)	2100 ppmv/4h
ATE CLP (vapours)	6.7 mg/l/4h
ATE CLP (dust,mist)	1.5 mg/l/4h

cyclohexane (110-82-7)	
LD50 oral rat	> 12705 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value; >5000 mg/kg bodyweight; Rat)

cyclohexane (110-82-7)	
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Rabbit; Experimental value; Equivalent or similar to OECD 402)
LC50 inhalation rat (mg/l)	> 19.07 mg/l/4h (Rat; Experimental value)
LC50 inhalation rat (ppm)	> 5540 ppm/4h (Rat)

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 mg/kg bodyweight
ATE CLP (gases)	8300 ppmv/4h
ATE CLP (vapours)	38 mg/l/4h
ATE CLP (dust,mist)	38 mg/l/4h

methacrylonitrile (126-98-7)	
LD50 oral rat	64 - 73 mg/kg (Rat)
LD50 dermal rabbit	280 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	0.66 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	328 ppm/4h (Rat)
ATE CLP (oral)	64 mg/kg bodyweight
ATE CLP (dermal)	280 mg/kg bodyweight
ATE CLP (gases)	328 ppmv/4h
ATE CLP (vapours)	0.66 mg/l/4h
ATE CLP (dust,mist)	0.66 mg/l/4h

methylmethacrylate (80-62-6)	
LD50 oral rat	> 6000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; 7900 mg/kg bodyweight; Rat; Equivalent or similar to OECD 401; Weight of evidence; 8400 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	> 7550 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >5000 mg/kg bodyweight; Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	27.5 mg/l/4h (Rat; Literature study)
ATE CLP (vapours)	27.5 mg/l/4h
ATE CLP (dust,mist)	27.5 mg/l/4h

methylcyclohexane (108-87-2)	
LD50 oral rat	> 5840 mg/kg bodyweight (Rat; OECD 401: Acute Oral Toxicity; Read-across)
LD50 dermal rat	> 2800 mg/kg bodyweight (Rat; Read-across)
LD50 dermal rabbit	86700 mg/kg (Rabbit; Literature study)

propionitrile (107-12-0)	
LD50 oral rat	39 mg/kg (Rat)
LD50 dermal rabbit	164 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	1.6 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	730 ppm/4h (Rat)
ATE CLP (oral)	39 mg/kg bodyweight
ATE CLP (dermal)	164 mg/kg bodyweight
ATE CLP (gases)	730 ppmv/4h
ATE CLP (vapours)	1.6 mg/l/4h
ATE CLP (dust,mist)	1.6 mg/l/4h

1,4-dichloro-2-butene, trans- (110-57-6)	
LC50 inhalation rat (mg/l)	0.45 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	86 ppm/4h (Rat)
ATE CLP (oral)	100 mg/kg bodyweight
ATE CLP (dermal)	300 mg/kg bodyweight
ATE CLP (gases)	86 ppmv/4h
ATE CLP (vapours)	0.45 mg/l/4h
ATE CLP (dust,mist)	0.45 mg/l/4h

2-chloro-1,3-butadiene, inhibited (126-99-8)	
LD50 oral rat	251 mg/kg (Rat)
LD50 dermal rabbit	2200 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	11.8 mg/l/4h (Rat)
ATE CLP (oral)	251 mg/kg bodyweight

2-chloro-1,3-butadiene, inhibited (126-99-8)	
ATE CLP (dermal)	2200 mg/kg bodyweight
ATE CLP (gases)	4500 ppmv/4h
ATE CLP (vapours)	11.8 mg/l/4h
ATE CLP (dust,mist)	1.5 mg/l/4h

methanol (67-56-1)	
LD50 oral rat	> 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	15800 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat; Literature study)
ATE CLP (oral)	100 mg/kg bodyweight
ATE CLP (dermal)	300 mg/kg bodyweight
ATE CLP (gases)	700 ppmv/4h
ATE CLP (vapours)	3 mg/l/4h
ATE CLP (dust,mist)	0.5 mg/l/4h

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

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

Respiratory or skin sensitisation : May cause an allergic skin reaction.

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

STOT-single exposure : Causes damage to organs.

STOT-repeated exposure : Not classified
Based on available data, the classification criteria are not met

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

Potential adverse human health effects and symptoms : Toxic if swallowed. Toxic in contact with skin.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - air : Dangerous for the ozone layer.

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

1,1,2-trichloro-1,2,2-trifluoroethane (76-13-1)	
EC50 Daphnia 1	71 mg/l (EC50; 48 h)
LC50 fish 2	7.4 mg/l (LC50; 96 h; Salmo gairdneri)

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)

acetonitrile (75-05-8)	
LC50 fish 1	1640 mg/l (LC50; Other; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	> 1000 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Semi-static system; Fresh water; Experimental value)
Threshold limit algae 1	9696 mg/l (EC50; ISO 10253; 72 h; Phaeodactylum; Static system; Salt water; Experimental value)
Threshold limit algae 2	> 1000 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)

acrylonitrile, inhibited (107-13-1)	
EC50 Daphnia 1	7.55 mg/l (EC50; 48 h)
LC50 fish 2	25 mg/l (LC50; 96 h; Brachydanio rerio)

allyl chloride (107-05-1)	
LC50 fish 2	0.32 mg/l (LC50; 96 h; Pimephales promelas; Static system)
EC50 Daphnia 2	0.25 - 0.4 mg/l (LC50; 96 h; Daphnia magna; Static system)

cyclohexane (110-82-7)	
LC50 fish 1	4.53 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	0.9 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit algae 1	3.428 mg/l (EbC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Selenastrum capricornutum)
Threshold limit algae 2	0.925 mg/l (NOEC; OECD 201: Alga, Growth Inhibition Test; 72 h; Selenastrum capricornutum)

methacrylonitrile (126-98-7)	
LC50 fish 1	100 - 1000 mg/l (LC50; 96 h)

methylmethacrylate (80-62-6)	
EC50 Daphnia 1	69 mg/l (EC50; EPA OTS 797.1300; 48 h; Daphnia magna; Flow-through system; Fresh water; Experimental value)
LC50 fish 2	191 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Static system; Fresh water; Experimental value)

methylcyclohexane (108-87-2)	
LC50 fish 2	5.4 mg/l (LC50; 96 h; Salmo gairdneri; Semi-static system)
Threshold limit algae 2	29 mg/l (ErC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Selenastrum capricornutum; Static system; Fresh water; Read-across)

propionitrile (107-12-0)	
LC50 fish 1	1520 mg/l (LC50; 96 h; Pimephales promelas)

2-chloro-1,3-butadiene, inhibited (126-99-8)	
LC50 fish 1	245 mg/l (LC50; 96 h; Lepomis macrochirus)
EC50 Daphnia 1	348 mg/l (EC50; 24 h)
Threshold limit algae 1	380 mg/l (EC50; 168 h)

methanol (67-56-1)	
LC50 fish 1	15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	> 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
LC50 fish 2	10800 mg/l (LC50; 96 h; Salmo gairdneri)

12.2. Persistence and degradability

Custom Landfill/TLC Mix	
Persistence and degradability	May cause long-term adverse effects in the environment.

1,1,2-trichloro-1,2,2-trifluoroethane (76-13-1)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil under anaerobic conditions.

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

acetonitrile (75-05-8)	
Persistence and degradability	Readily biodegradable in water. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.17 g O_2 /g substance
ThOD	3.12 g O_2 /g substance
BOD (% of ThOD)	0.055

acrylonitrile, inhibited (107-13-1)	
Persistence and degradability	Inherently biodegradable. Not readily biodegradable in water. Biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD)	0.72 g O_2 /g substance
Chemical oxygen demand (COD)	1.39 g O_2 /g substance
ThOD	3.17 g O_2 /g substance
BOD (% of ThOD)	0.22

allyl chloride (107-05-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.23 g O_2 /g substance
Chemical oxygen demand (COD)	0.86 g O_2 /g substance
ThOD	1.7 g O_2 /g substance
BOD (% of ThOD)	0.14 (5 days; Calculated value)

cyclohexane (110-82-7)	
Persistence and degradability	Readily biodegradable in water. Non degradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	0.22 g O_2 /g substance
ThOD	3.425 g O_2 /g substance
BOD (% of ThOD)	< 0.5 (Literature study)

ethyl methacrylate (97-63-2)	
Persistence and degradability	Biodegradable in water.

methacrylonitrile (126-98-7)	
Persistence and degradability	Biodegradable in the soil.

methylmethacrylate (80-62-6)	
Persistence and degradability	Readily biodegradable in water. No (test)data on mobility of the substance available. Photolysis in the air.
Biochemical oxygen demand (BOD)	0.14 g O_2 /g substance
ThOD	1.9 g O_2 /g substance
BOD (% of ThOD)	0.073

methylcyclohexane (108-87-2)	
Persistence and degradability	Not readily biodegradable in water. Low potential for adsorption in soil.

propionitrile (107-12-0)	
Persistence and degradability	Biodegradability in water: no data available.

2-chloro-1,3-butadiene, inhibited (126-99-8)	
Persistence and degradability	Not readily biodegradable in water. Ozonation in the air. Photolysis in the air. Photooxidation in the air.

methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O_2 /g substance
Chemical oxygen demand (COD)	1.42 g O_2 /g substance
ThOD	1.5 g O_2 /gsubstance
BOD (% of ThOD)	0.8 (Literature study)

12.3. Bioaccumulative potential

Custom Landfill/TLC Mix	
Bioaccumulative potential	Not established.

1,1,2-trichloro-1,2,2-trifluoroethane (76-13-1)	
BCF fish 1	11 - 86 (BCF)
Log Pow	1.66 - 3.3 (Calculated)
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).

acetonitrile (75-05-8)	
BCF other aquatic organisms 1	3.162 (BCF; BCFWIN)
Log Pow	0.29 (Weight of evidence approach; Equivalent or similar to OECD 107; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

acrylonitrile, inhibited (107-13-1)	
BCF fish 1	48 (BCF; 672 h; Lepomis macrochirus)
Log Pow	-0.9 - 0.3 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

allyl chloride (107-05-1)	
BCF fish 1	< 5.6 (BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; 42 days; Cyprinus carpio)

allyl chloride (107-05-1)	
Log Pow	2.1 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

cyclohexane (110-82-7)	
BCF fish 2	31 - 129 (BCF; 8 weeks; Cyprinus carpio)
Log Pow	3.44 (Experimental value; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

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

methacrylonitrile (126-98-7)	
Bioaccumulative potential	Not bioaccumulative.

methylmethacrylate (80-62-6)	
BCF fish 1	2.97 - 3.5 (BCF)
Log Pow	1.32 - 1.38 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

methylcyclohexane (108-87-2)	
BCF fish 1	95 - 321 (BCF; 8 weeks; Cyprinus carpio)
Log Pow	3.88 (Literature)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

propionitrile (107-12-0)	
Log Pow	0.16
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

1,4-dichloro-2-butene, trans- (110-57-6)	
Log Pow	2.11 - 2.6 (QSAR)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

2-chloro-1,3-butadiene, inhibited (126-99-8)	
Log Pow	0.57 - 2.2
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

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

12.4. Mobility in soil

1,1,2-trichloro-1,2,2-trifluoroethane (76-13-1)	
Surface tension	0.023 N/m

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

acetonitrile (75-05-8)	
Surface tension	0.029 N/m (20 °C)

acrylonitrile, inhibited (107-13-1)	
Surface tension	0.027 N/m (20 °C)

allyl chloride (107-05-1)	
Surface tension	0.023 N/m (20 °C)
Log Koc	log Koc,SRC PCKOCWIN v2.0; 1.67; Calculated value

cyclohexane (110-82-7)	
Surface tension	0.025 N/m (20 °C)
Log Koc	log Koc,Other; 2.89; QSAR; Koc; Other; 770; QSAR

methacrylonitrile (126-98-7)	
Surface tension	0.024 N/m (20 °C)

methylmethacrylate (80-62-6)	
Surface tension	0.028 N/m (20 °C)

methylcyclohexane (108-87-2)	
Log Koc	log Koc,SRC PCKOCWIN v2.0; 2.369; Calculated value

propionitrile (107-12-0)	
Surface tension	0.027 N/m (25 °C)

1,4-dichloro-2-butene, trans- (110-57-6)	
Surface tension	0.024 N/m (20 °C)
Log Koc	log Koc,2.33; Experimental value; Other isomer

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

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Additional information : Handle empty containers with care because residual vapours are flammable. Hazardous waste due to potential risk of explosion.

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), II, (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 risk (ADR) : 6.1

Subsidiary risk (IMDG) : 6.1

Danger labels (ADR) : 3, 6.1

Hazard labels (IATA) : 3, 6.1

Danger labels (IMDG) : 3, 6.1

Danger labels (ADN) : 3, 6.1

14.4. Packing group

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

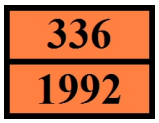
14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

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



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

14.6.2. Transport by sea

Special provisions (IMDG) : 274
Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP2, TP13
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-D
Stowage category (IMDG) : B
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) : 364
CAO max net quantity (IATA) : 60L
PCA packing instructions (IATA) : 352
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1L
PCA max net quantity (IATA) : 1L
PCA Excepted quantities (IATA) : E2
Special provisions (IATA) : A3
ERG code (IATA) : 3HP

14.6.4. Inland waterway transport

Special provisions (ADN) : 274, 802
Limited quantities (ADN) : 1 L

Excepted quantities (ADN)	:	E2
Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP, EP, EX, TOX, A
Ventilation (ADN)	:	VE01, VE02
Number of blue cones/lights (ADN)	:	2
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 substance on the REACH candidate list

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, labelling 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