

Ethanol Domestix**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product name : Ethanol Domestix
Registration number REACH : Not applicable (mixture)
Product type REACH : Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1 Relevant identified uses**

Liquid fuel for portable heaters

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet**Supplier of the safety data sheet**

PVG LIQUIDS NV
Belgicastraat 1C - Haven 2290
B-9042 Gent
☎ +32 9 250 90 80
liquid600@pvg.eu

1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Flam. Liq.	category 2	H225: Highly flammable liquid and vapour.
Eye Irrit.	category 2	H319: Causes serious eye irritation.

2.2. Label elements

Signal word



Danger

H-statements

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.

P-statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves and eye protection/face protection.
P264 Wash hands thoroughly after handling.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403 + P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

2.3. Other hazards

Gas/vapour spreads at floor level: ignition hazard
Produces effects on the nervous system

Ethanol Domestix

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No List No	Conc. (C)	Classification according to CLP	Note	Remark	M-factors and ATE
ethanol 01-2119457610-43	64-17-5 200-578-6	C>90%	Flam. Liq. 2; H225 Eye Irrit. 2; H319 Eye Irrit. 2; H319: C≥50%, (ECHA)	(1)(2)(6)(10)	Constituent	
butanone 01-2119457290-43	78-93-3 201-159-0	0.1%<C<1%	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066	(1)(2)(10)	Denaturing agent	
propan-2-ol 01-2119457558-25	67-63-0 200-661-7	0.1%<C<1%	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	(1)(2)(10)	Denaturing agent	
denatonium benzoate	3734-33-6 223-095-2	C>10 ppm	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	(1)	Denaturing agent	

(1) For H- and EUH-statements in full: see section 16

(2) Substance with a Community workplace exposure limit

(6) Enumerated in Annex VI of Regulation (EC) No. 1272/2008 but the classification has been adapted after evaluation of available test data

(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

Note: numbers 9xx-xxx-x are provisional list numbers assigned by Echa pending an official EC inventory number

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms. Never give alcohol to drink.

After inhalation:

Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.

After skin contact:

If possible, wipe up/dry remove chemical. Then rinse/shower immediately with (lukewarm) water. If irritation persists, consult a doctor/medical service.

After eye contact:

Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a doctor/medical service.

After ingestion:

Rinse mouth with water. If you feel unwell, consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

4.2.1 Acute symptoms

After inhalation:

EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Respiratory difficulties. Central nervous system depression. Symptoms similar to those listed under ingestion.

After skin contact:

Slight irritation.

After eye contact:

Irritation of the eye tissue. Redness of the eye tissue. Lacrimation.

After ingestion:

AFTER INGESTION OF HIGH QUANTITIES: Risk of aspiration pneumonia. Red skin. Body temperature rise. Damp/clammy skin. Excited/restless. Accelerated heart action. Central nervous system depression. Dizziness. Headache. Drunkenness. Nausea. Vomiting. Disturbed motor response. Coordination disorders. Visual disturbances. Impaired concentration. Delusions. Disturbed sensation of pain. Disturbances of heart rate. Disturbances of consciousness. Tremor. Cramps/uncontrolled muscular contractions. Dilated pupils.

4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

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2 / 16

Ethanol Domestix

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:

Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (alcohol-resistant), Water spray if puddle cannot expand.

5.1.2 Unsuitable extinguishing media:

Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Upon combustion: CO and CO2 are formed.

5.3. Advice for firefighters

5.3.1 Instructions:

Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.

5.3.2 Special protective equipment for fire-fighters:

Gloves (EN 374). Protective goggles (EN 166). Protective clothing (EN 14605 or EN 13034). Large spills/in enclosed spaces: self-contained breathing apparatus (EN 136 + EN 137). Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep upwind. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed.

6.1.1 Protective equipment for non-emergency personnel

See section 8.2

6.1.2 Protective equipment for emergency responders

Gloves (EN 374). Protective goggles (EN 166). Protective clothing (EN 14605 or EN 13034). Large spills/in enclosed spaces: self-contained breathing apparatus (EN 136 + EN 137).

Suitable protective clothing

See section 8.2

6.2. Environmental precautions

Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into inert absorbent material. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

See section 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Gas/vapour heavier than air at 20°C. Observe normal hygiene standards. Keep container tightly closed. Do not discharge the waste into the drain.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Meet the legal requirements. Store in a cool area. Store in a dry area. Keep container in a well-ventilated place. Fireproof storeroom. Provide for a tub to collect spills. Provide the tank with earthing.

7.2.2 Keep away from:

Heat sources, ignition sources, oxidizing agents, (strong) acids, water/moisture.

7.2.3 Suitable packaging material:

No data available

7.2.4 Non suitable packaging material:

No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer. This product may only be used in atmospheric fireplaces which are designed for this product.

Ethanol Domestix

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

EU

Butanone	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	200 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	600 mg/m ³
	Short time value (Indicative occupational exposure limit value)	300 ppm
	Short time value (Indicative occupational exposure limit value)	900 mg/m ³

Belgium

2-Butanon	Time-weighted average exposure limit 8 h	200 ppm
	Time-weighted average exposure limit 8 h	600 mg/m ³
	Short time value	300 ppm
	Short time value	900 mg/m ³
Alcool éthylique	Time-weighted average exposure limit 8 h	1000 ppm
	Time-weighted average exposure limit 8 h	1907 mg/m ³

The Netherlands

2-Butanon	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	197 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	590 mg/m ³
	Short time value (Public occupational exposure limit value)	300 ppm
	Short time value (Public occupational exposure limit value)	900 mg/m ³
Ethanol	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	137 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	260 mg/m ³
	Short time value (Public occupational exposure limit value)	1000 ppm
	Short time value (Public occupational exposure limit value)	1900 mg/m ³

France

Alcool éthylique	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	1000 ppm
	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	1900 mg/m ³
	Short time value (VL: Valeur non réglementaire indicative)	5000 ppm
	Short time value (VL: Valeur non réglementaire indicative)	9500 mg/m ³
Méthyléthylcétone	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	200 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	600 mg/m ³
	Short time value (VRC: Valeur réglementaire contraignante)	300 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	900 mg/m ³

Germany

Butanon	Time-weighted average exposure limit 8 h (TRGS 900)	200 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	600 mg/m ³
Ethanol	Time-weighted average exposure limit 8 h (TRGS 900)	200 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	380 mg/m ³

Austria

Butanon	Tagesmittelwert (MAK)	100 ppm
	Tagesmittelwert (MAK)	295 mg/m ³
	Kurzzeitwert 30(Miw) 4x (MAK)	200 ppm
	Kurzzeitwert 30(Miw) 4x (MAK)	590 mg/m ³
Ethanol	Tagesmittelwert (MAK)	1000 ppm
	Tagesmittelwert (MAK)	1900 mg/m ³
	Kurzzeitwert 60(Mow) 3x (MAK)	2000 ppm
	Kurzzeitwert 60(Mow) 3x (MAK)	3800 mg/m ³

UK

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BIG number: 58728

4 / 16

Ethanol Domestix

Butan-2-one (methyl ethyl ketone)	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	200 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	600 mg/m ³
	Short time value (Workplace exposure limit (EH40/2005))	300 ppm
	Short time value (Workplace exposure limit (EH40/2005))	899 mg/m ³
Ethanol	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	1000 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	1920 mg/m ³

USA (TLV-ACGIH)

Ethanol	Short time value (TLV - Adopted Value)	1000 ppm
Methyl ethyl ketone	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	200 ppm
	Short time value (TLV - Adopted Value)	300 ppm

b) National biological limit values

If limit values are applicable and available these will be listed below.

Germany

2-Butanon (Methylethylketon) (2-Butanon)	Urin: expositionsende, bzw. schichtende	2 mg/l	
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UK

Butan-2-one (butan-2-one)	Urine: post shift	70 µmol/L	
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USA (BEI-ACGIH)

Methyl ethyl ketone (Methyl ethyl ketone)	urine: end of shift	2 mg/L	Nonspecific
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8.1.2 Sampling methods

Product name	Test	Number
2-Butanone (MEK) (Methyl ethyl ketone)	NIOSH	2500
2-Butanone (organic and inorganic gases by Extractive FTIR)	NIOSH	3800
2-Butanone (Volatile Organic compounds)	NIOSH	2549
2-Butanone	NIOSH	2027
2-Butanone	OSHA	1004
Ethanol (Ethylalcohol)	NIOSH	3900
Ethanol (Ethylalcohol)	OSHA	5001
Ethanol (Volatile Organic compounds)	NIOSH	2549
ethanol	NIOSH	8002
Ethyl Alcohol (Ethanol)(Alcohols I)	NIOSH	1400
MEK	NIOSH	8002
Methyl Ethyl Ketone (ketones I)	NIOSH	2555
Methyl Ethyl Ketone	NIOSH	8319

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

ethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	380 mg/m ³	

butanone

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	600 mg/m ³	
	Long-term systemic effects dermal	1161 mg/kg bw/day	
	Acute systemic effects inhalation	900 mg/m ³	

DNEL/DMEL - General population

ethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	114 mg/m ³	

butanone

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	106 mg/m ³	
	Long-term systemic effects dermal	412 mg/kg bw/day	
	Long-term systemic effects oral	31 mg/kg bw/day	
	Acute systemic effects inhalation	450 mg/m ³	

PNEC

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Publication date: 2013-05-23

Date of revision: 2023-02-03

Revision number: 0200

BIG number: 58728

5 / 16

Ethanol Domestix

ethanol

Compartments	Value	Remark
Fresh water	0.96 mg/l	
Marine water	0.79 mg/l	
Fresh water (intermittent releases)	2.75 mg/l	
STP	580 mg/l	
Fresh water sediment	3.6 mg/kg sediment dw	
Marine water sediment	2.9 mg/kg sediment dw	
Soil	0.63 mg/kg soil dw	
Oral	0.38 g/kg food	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Do not eat, drink or smoke during work.

a) Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit.

b) Hand protection:

Protective gloves against chemicals (EN 374).

Materials	Remark
butyl rubber	Good resistance
viton	Good resistance
neoprene (chloroprene rubber)	Good resistance
tetrafluoroethylene	Good resistance
nitrile rubber	Less resistance
polyethylene	Less resistance
natural rubber	Poor resistance
PVA	Poor resistance
PVC	Poor resistance

c) Eye protection:

Protective goggles (EN 166).

d) Skin protection:

Protective clothing (EN 14605 or EN 13034).

8.2.3 Environmental exposure controls:

See sections 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Liquid
Odour	Characteristic odour
Odour threshold	No data available (test not performed)
Colour	Colourless
Translucency	Clear
Particle size	Not applicable (liquid)
Explosion limits	No data available (test not performed)
Flammability	Highly flammable liquid and vapour.
Log Kow	Not applicable (mixture)
Dynamic viscosity	No data available (test not performed)
Kinematic viscosity	No data available (test not performed)
Melting point	No data available (test not performed)
Boiling point	No data available (test not performed)
Relative vapour density	> 1
Vapour pressure	No data available (test not performed)
Solubility	No data available (test not performed)
Relative density	0.75 - 0.85
Absolute density	750 kg/m ³ - 850 kg/m ³
Decomposition temperature	No data available (test not performed)
Auto-ignition temperature	No data available (test not performed)
Flash point	< 21 °C
pH	6 - 9

9.2. Other information

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BIG number: 58728

6 / 16

Ethanol Domestix

Solidification (freezing) point

-75 °C

SECTION 10: Stability and reactivity

10.1. Reactivity

May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. Neutral reaction.

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

Reacts violently with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

10.4. Conditions to avoid

Precautionary measures

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks.

10.5. Incompatible materials

Oxidizing agents, (strong) acids, water/moisture.

10.6. Hazardous decomposition products

Upon combustion: CO and CO₂ are formed.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

11.1.1 Test results

Acute toxicity

Ethanol Domestix

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 401	10470 mg/kg bw		Rat (male / female)	Experimental value	
Skin	LD50		> 15800 mg/kg bw		Rabbit	Data waiving	
Inhalation (vapours)	LC50	Equivalent to OECD 403	124.7 mg/l air	4 h	Rat (male / female)	Experimental value	

butanone

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 423	2193 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	> 10 ml/kg bw	24 h	Rabbit (male)	Experimental value	
Inhalation						Data waiving	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

Ethanol Domestix

No (test)data on the mixture available

Classification is based on the relevant ingredients

ethanol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	OECD 405	14 day(s)	24; 48; 72 hours	Rabbit	Experimental value	Single treatment
Skin	Not irritating	OECD 404	24 h	1; 2; 3; 4; 5; 7 days	Rabbit	Experimental value	Single treatment

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Revision number: 0200

BIG number: 58728

7 / 16

Ethanol Domestix

butanone

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	Equivalent to OECD 405		24; 72 hours	Rabbit	Experimental value	Single treatment without rinsing
Skin	Not irritating	OECD 404	4 h	4; 24; 48; 72 hours	Rabbit	Read-across	

Conclusion

Causes serious eye irritation.
Not classified as irritating to the respiratory system
Not classified as irritating to the skin

Respiratory or skin sensitisation

Ethanol Domestix

No (test)data on the mixture available
Judgement is based on the relevant ingredients
ethanol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 429			Mouse (male)	Experimental value	
Inhalation (vapours)	Not sensitizing				Rat (male / female)	Experimental value	

butanone

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406			Guinea pig (female)	Experimental value	

Conclusion

Not classified as sensitizing for inhalation
Not classified as sensitizing for skin

Specific target organ toxicity

Ethanol Domestix

No (test)data on the mixture available
Judgement is based on the relevant ingredients
ethanol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	LOAEL	Equivalent to OECD 408	3160 mg/kg	Liver; kidney	No effect	7 weeks (daily) - 14 weeks (daily)	Rat (male)	Experimental value
Dermal								Data waiving
Inhalation (vapours)	LOAEC	Equivalent to OECD 453	1.3 mg/l air	Pituitary	Histology	12 month(s)	Rat (male / female)	Read-across

butanone

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral								Data waiving
Dermal								Data waiving
Inhalation (vapours)	NOAEC	Equivalent to OECD 413	5041 ppm		No effect	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value
Inhalation (vapours)			STOT SE cat.3	Central nervous system	Drowsiness, dizziness			Annex VI

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

Ethanol Domestix

No (test)data on the mixture available
Judgement is based on the relevant ingredients
ethanol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Experimental value	

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Publication date: 2013-05-23

Date of revision: 2023-02-03

Revision number: 0200

BIG number: 58728

8 / 16

Ethanol Domestix

butanone

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 473	Rat liver cells	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

Mutagenicity (in vivo)

Ethanol Domestix

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethanol

Result	Method	Exposure time	Test substrate	Organ	Value determination
Ambiguous (Oral (stomach tube))	Equivalent to OECD 478	5 days (1x / day)	Mouse (male)	General	Experimental value

butanone

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Intraperitoneal)	Equivalent to OECD 474		Mouse (male / female)		Experimental value

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

Ethanol Domestix

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation (vapours)	NOAEC	Equivalent to OECD 453	≥ 1.3 ppm	24 month(s)	Rat (male / female)	No carcinogenic effect		Read-across
Oral (diet)	NOAEL	Equivalent to OECD 451	> 3000 mg/kg bw/day	104 weeks (daily)	Rat (male / female)	No carcinogenic effect		Experimental value

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

Ethanol Domestix

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethanol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Inhalation (vapours))	NOAEL	Equivalent to OECD 414	≥ 20000 ppm	20 days (7h / day)	Rat (male)	No effect	Stomach	Experimental value
Maternal toxicity (Inhalation (vapours))	NOAEL	Equivalent to OECD 414	16000 ppm	20 days (7h / day)	Rat (female)	No effect		Experimental value
Effects on fertility (Oral (drinking water))	NOAEL (P)	Equivalent to OECD 416	20700 mg/kg bw/day	18 week(s)	Mouse (male / female)	No effect		Experimental value

butanone

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Inhalation)	NOAEC	Equivalent to OECD 414	1002 ppm	10 days (7h / day)	Rat	No effect	Foetus	Experimental value
Maternal toxicity (Inhalation)	NOAEC	Equivalent to OECD 414	1002 ppm	10 days (7h / day)	Rat	No effect		Experimental value
Effects on fertility (Oral (drinking water))	NOAEL	Equivalent to OECD 416	1644 mg/kg bw/day		Rat (male / female)	No effect		Experimental value

Conclusion

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Revision number: 0200

BIG number: 58728

9 / 16

Ethanol Domestix

Not classified for reprotoxic or developmental toxicity

Aspiration hazard

Judgement is based on the relevant ingredients
Not classified for aspiration toxicity

Toxicity other effects

Ethanol Domestix

Chronic effects from short and long-term exposure

Ethanol Domestix

Dry skin. Gastrointestinal complaints. Enlargement/affection of the liver. Change in the haemogramme/blood composition. Cardiac and blood circulation effects. High arterial pressure. Impairment of the nervous system. Behavioural disturbances. Mental confusion. Disturbed tactile sensibility. Tremor. Affection of the bone marrow. Affection of the endocrine system. Weakening of the immune system.

11.2. Information on other hazards

No evidence of endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

Ethanol Domestix

No (test)data on the mixture available

Judgement of the mixture is based on the relevant ingredients
ethanol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	US EPA	15300 mg/l	96 h	Pimephales promelas	Flow-through system	Fresh water	Experimental value
Acute toxicity crustacea	LC50	ASTM E729-80	5012 mg/l	48 h	Ceriodaphnia dubia	Static system	Fresh water	Experimental value; Nominal concentration
Toxicity algae and other aquatic plants	ErC50	Equivalent to OECD 201	275 mg/l	3 day(s)	Chlorella vulgaris	Static system	Fresh water	Experimental value; Nominal concentration
Long-term toxicity fish	ChV	US EPA	245 mg/l	30 day(s)	Pisces		Fresh water	QSAR; Lethal
Long-term toxicity aquatic crustacea	NOEC		9.6 mg/l	9 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Nominal concentration
Toxicity aquatic micro-organisms	EC50		5800 mg/l	4 h	Paramaecium caudatum	Static system	Fresh water	Experimental value; Nominal concentration

butanone

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	2973 mg/l	96 h	Pimephales promelas	Static system	Fresh water	Experimental value; GLP
Acute toxicity crustacea	EC50	OECD 202	308 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	ErC50	OECD 201	1220 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; GLP
	NOEC	OECD 201	566 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Toxicity aquatic micro-organisms	Toxicity threshold	Equivalent to DIN 38412/8	1150 mg/l	16 h	Pseudomonas putida	Static system	Fresh water	Experimental value

Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2. Persistence and degradability

ethanol

Biodegradation water

Method	Value	Duration	Value determination
	84 %; Oxygen consumption	20 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
	36 h - 40 h	5E5 /cm ³	Calculated value

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10 / 16

Ethanol Domestix

butanone

Biodegradation water

Method	Value	Duration	Value determination
OECD 301D	98 %; Oxygen consumption	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	96.295 h	1.5E6 /cm ³	Calculated value

Conclusion

Water

Contains readily biodegradable component(s)

12.3. Bioaccumulative potential

Ethanol Domestix

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

ethanol

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		1 - 4.5	72 h	Cyprinus carpio	Read-across

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 107		-0.35	24 °C	Experimental value

butanone

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 117		0.3	40 °C	Experimental value

Conclusion

Does not contain bioaccumulative component(s)

12.4. Mobility in soil

ethanol

(log) Koc

Parameter	Method	Value	Value determination
log Koc		0	Calculated value

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	53.2 %		0.1 %	13.7 %	33.1 %	QSAR

butanone

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	0.654 - 1.281	Calculated value

Conclusion

Contains component(s) with potential for mobility in the soil

12.5. Results of PBT and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties

12.7. Other adverse effects

Ethanol Domestix

Greenhouse gases

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

Groundwater

Groundwater pollutant

ethanol

Groundwater

Groundwater pollutant

butanone

Groundwater

Groundwater pollutant

Ethanol Domestix

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997. The waste code must be assigned by the user, preferably in consultation with the (environmental) authorities concerned.

13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

European Union

Waste material code packaging (Directive 2008/98/EC).

15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR)

14.1. UN number

UN number	1170
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14.2. UN proper shipping name

Proper shipping name	ethanol solution (ethyl alcohol solution)
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14.3. Transport hazard class(es)

Hazard identification number	33
Class	3
Classification code	F1

14.4. Packing group

Packing group	II
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	no
--	----

14.6. Special precautions for user

Special provisions	144
Special provisions	601
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Rail (RID)

14.1. UN number

UN number	1170
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14.2. UN proper shipping name

Proper shipping name	ethanol solution (ethyl alcohol solution)
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14.3. Transport hazard class(es)

Hazard identification number	33
Class	3
Classification code	F1

14.4. Packing group

Packing group	II
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	no
--	----

14.6. Special precautions for user

Special provisions	144
Special provisions	601
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Inland waterways (ADN)

14.1. UN number/ID number

UN number/ID number	1170
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14.2. UN proper shipping name

Proper shipping name	ethanol solution (ethyl alcohol solution)
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14.3. Transport hazard class(es)

Class	3
Classification code	F1

14.4. Packing group

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12 / 16

Ethanol Domestix

Packing group	II
Labels	3
14.5. Environmental hazards	
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	144
Special provisions	601
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Sea (IMDG/IMSBC)

14.1. UN number	
UN number	1170
14.2. UN proper shipping name	
Proper shipping name	ethanol solution (ethyl alcohol solution)
14.3. Transport hazard class(es)	
Class	3
14.4. Packing group	
Packing group	II
Labels	3
14.5. Environmental hazards	
Marine pollutant	-
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	144
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
14.7. Maritime transport in bulk according to IMO instruments	
Annex II of MARPOL 73/78	Not applicable, based on available data

Air (ICAO-TI/IATA-DGR)

14.1. UN number/ID number	
UN number/ID number	1170
14.2. UN proper shipping name	
Proper shipping name	ethyl alcohol solution
14.3. Transport hazard class(es)	
Class	3
14.4. Packing group	
Packing group	II
Labels	3
14.5. Environmental hazards	
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	A180
Special provisions	A3
Special provisions	A58
Passenger and cargo transport	
Limited quantities: maximum net quantity per packaging	1 L

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
97.3 % - 99.9 %	

Directive 2012/18/EU (Seveso III)

Threshold values under special circumstances

Substance or category	Special circumstances	Low tier (tonnes)	Top tier (tonnes)	Group	For this substance or mixture the summation rule has to be applied for:
P5b FLAMMABLE LIQUIDS	Particular processing conditions, such as high pressure or high temperature, may create major-accident hazards	50	200	None	Flammability
P5a FLAMMABLE LIQUIDS	Maintained at a temperature above the boiling point	10	50	None	Flammability

Threshold values under normal circumstances

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13 / 16

Ethanol Domestix

Substance or category	Low tier (tonnes)	Top tier (tonnes)	Group	For this substance or mixture the summation rule has to be applied for:
P5c FLAMMABLE LIQUIDS	5000	50000	None	Flammability

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
· ethanol · butanone	Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F; (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10; (c) hazard class 4.1; (d) hazard class 5.1.	1. Shall not be used in: — ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, — tricks and jokes, — games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market. 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: — can be used as fuel in decorative oil lamps for supply to the general public, and, — present an aspiration hazard and are labelled with H304, 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN). 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met: a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life- threatening lung damage"; b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: "Just a sip of grill lighter may lead to life threatening lung damage"; c) lamp oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
· ethanol · butanone	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not.	1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following: — metallic glitter intended mainly for decoration, — artificial snow and frost, — "whoopie" cushions, — silly string aerosols, — imitation excrement, — horns for parties, — decorative flakes and foams, — artificial cobwebs, — stink bombs. 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: "For professional users only". 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/ 324/EEC. 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.
· butanone	Substances falling within one or more of the following points: (a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008: — carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, but excluding any such substances classified due to effects only following exposure by inhalation — reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation — skin sensitiser category 1, 1A or 1B — skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2 — serious eye damage category 1 or eye irritant category 2 (b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the European Parliament and of the Council (c) substances listed in Annex IV to Regulation (EC) No 1223/2009 for which a	Mixtures for tattooing purposes are subject to the restrictions of Regulation (EU) 2020/2081

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Revision number: 0200

BIG number: 58728

14 / 16

Ethanol Domestix

condition is specified in at least one of the columns g, h and i of the table in that Annex (d) substances listed in Appendix 13 to this Annex.

The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry.

The identified uses are not covered by restrictions of Annex XVII of Regulation (EC) No 1907/2006

National legislation Belgium

Ethanol Domestix

No data available

propan-2-ol

Agents cancérogènes, mutagènes et reprotoxiques (Code du bien-être au travail, Livre VI, titre 2)	alcool isopropylique; VI.2.2.; Liste des procédés au cours desquels une substance ou un mélange se dégage; Procédé à l'acide fort dans la fabrication d'alcool isopropylique.
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National legislation The Netherlands

Ethanol Domestix

Waterbezwaarlijkheid	B (4); Algemene Beoordelingsmethodiek (ABM)
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ethanol

Huidopname (wettelijk)	Ethanol; H
SZW - Lijst van kankerverwekkende stoffen	Ethanol; Listed in SZW-list of carcinogenic substances
SZW - Lijst van voor de voortplanting giftige stoffen (ontwikkeling)	ethanol; ethylalcohol; Opgenomen in SZW-lijst van voor de voortplanting giftige stoffen (ontwikkeling); 1A
SZW - Lijst van voor de voortplanting giftige stoffen (vruchtbaarheid)	ethanol; ethylalcohol; Opgenomen in SZW-lijst van voor de voortplanting giftige stoffen (vruchtbaarheid); 1A
SZW - Lijst van voor de voortplanting giftige stoffen (borstvoeding)	ethanol; ethylalcohol; Opgenomen in SZW-lijst van voor de voortplanting giftige stoffen (borstvoeding)

butanone

Huidopname (wettelijk)	2-Butanon; H
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National legislation France

Ethanol Domestix

No data available

butanone

Risque de pénétration percutanée	Méthyléthylcétone; Risque de pénétration percutanée
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National legislation Germany

Ethanol Domestix

Lagerklasse (TRGS510)	3: Entzündbare Flüssigkeiten
WGK	1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017

ethanol

TA-Luft	5.2.5
TRGS900 - Risiko der Fruchtschädigung	Ethanol; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

butanone

TA-Luft	5.2.5
TRGS900 - Risiko der Fruchtschädigung	Butanon; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden
Hautresorptive Stoffe	Butanon; H; Hautresorptiv

National legislation Austria

Ethanol Domestix

No data available

butanone

besondere Gefahr der Hautresorption	Butanon; H
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National legislation United Kingdom

Ethanol Domestix

No data available

butanone

Skin absorption	Butan-2-one (methyl ethyl ketone); Sk
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Other relevant data

Ethanol Domestix

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Revision number: 0200

BIG number: 58728

15 / 16

Ethanol Domestix

No data available

ethanol

IARC - classification	1; Alcohol beverages
TLV - Carcinogen	Ethanol; A3

15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

Full text of any H- and EUH-statements referred to under section 3:

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
EUH066 Repeated exposure may cause skin dryness or cracking.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
BCF	Bioconcentration Factor
BEI	Biological Exposure Indices
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC10	Effect Concentration 10 %
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
GLP	Good Laboratory Practice
LC0	Lethal Concentration 0 %
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
LOAEC/LOAEL	Lowest Observed Adverse Effect Concentration/Lowest Observed Adverse Effect Level
NOAEC/NOAEL	No Observed Adverse Effect Concentration/No Observed Adverse Effect Level
NOEC/NOEL	No Observed Effect Concentration/No Observed Effect Level
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

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16 / 16