Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH)

Trade name :	Ethyl alcohol UK denaturation		
Revision date :	01.01.2023	Version :	1.0.0
Print date :	12-04-2023		

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

1.1 Product identifier
Ethyl alcohol UK denaturation (140016)

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses
Fuel for ethanol/gel fireplaces. Consumer uses: Private households (= general public = consumers)
Uses advised against
This product should not be used for purposes other than the applications referred to above.

1.3 Details of the supplier of the safety data sheet
Supplier
Sel Chemie BV
Street : Broekstraat 23
Postal code/City : 7122 MN Aalten
Telephone : +31 (0)543-471956
Telefax : +31 (0)543-476600
Information contact : Email: MSDS@selchemie.com

1.4 Emergency telephone number
Members of the public seeking specific information on poisons should contact: In England and Wales: NHS 111 - dial 111, in Scotland: NHS 24 - dial 111 Ireland +353 (0)1 8092566 or +353 (0)1 8379964 National Poisons Information Centre

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 - Flammable liquids : Category 2 ; Highly flammable liquid and vapour.
Eye Irrit. 2 ; H319 - Serious eye damage/eye irritation : Category 2 ; Causes serious eye irritation.

2.2 Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms

Flame (GHS02) · Exclamation mark (GHS07)

Signal word

Danger

Hazard statements

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

Precautionary 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/protective clothing/eye protection/face protection.
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 / national regulations.

2.3 Other hazards

This material can accumulate static charge by flow or agitation and can be ignited by static discharge. Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous ingredients

ETHANOL ; REACH No. : 01-2119457610-43 ; EC No. : 200-578-6; CAS No. : 64-17-5

Weight fraction : ≥ 90 %

Classification 1272/2008 [CLP] : Flam. Liq. 2 ; H225 Eye Irrit. 2 ; H319

PROPAN-2-OL ; REACH No. : 01-2119457558-25 ; EC No. : 200-661-7; CAS No. : 67-63-0

Weight fraction : ≥ 2,5 - < 10 %

Classification 1272/2008 [CLP] : Flam. Liq. 2 ; H225 Eye Irrit. 2 ; H319 STOT SE 3 ; H336

BUTANONE ; REACH No. : 01-2119457290-43 ; EC No. : 201-159-0; CAS No. : 78-93-3

Weight fraction : ≥ 2,5 - < 10 %

Classification 1272/2008 [CLP] : Flam. Liq. 2 ; H225 Eye Irrit. 2 ; H319 STOT SE 3 ; H336

Additional information

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice. Observe risk of aspiration if vomiting occurs. If unconscious but breathing normally, place in recovery position and seek medical advice. If breathing is irregular or stopped, administer artificial respiration. Remove casualty to fresh air and keep warm and at rest.

Following inhalation

Remove casualty to fresh air and keep warm and at rest. In all cases of doubt, or when symptoms persist, seek medical attention.

In case of skin contact

Wash immediately with: Water In all cases of doubt, or when symptoms persist, seek medical attention. Change contaminated, saturated clothing. Wash contaminated clothing prior to re-use.

After eye contact

Rinse immediately carefully and thoroughly with eye-bath or water. In all cases of doubt, or when symptoms persist, seek medical attention.

Following ingestion

Rinse mouth thoroughly with water. Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

The following symptoms may occur: Headache Dizziness Nausea Diminished responsiveness Danger of irritation to eyes, nose, throat and the air passages. depression of central nervous system Cardiac arrhythmias Dizziness Vomiting Dilated pupils

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Water mist alcohol resistant foam ABC-powder BC-powder Carbon dioxide (CO2)

Unsuitable extinguishing media
Full water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products
Carbon monoxide Carbon dioxide (CO2)

5.3 Advice for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Be aware that gases can spread at ground level (heavier than air) and pay attention to the wind direction. Remove all sources of ignition. Use only antistatically equipped (spark-free) tools.

For non-emergency personnel
Protective equipment
Use personal protection equipment. Wear closed protection glasses. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Emergency procedures
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

6.2 Environmental precautions
Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Use foam on spills to minimise vapours. Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3 Methods and material for containment and cleaning up

For cleaning up
Suitable material for taking up: Sand Kieselguhr Limestone powder Collect in closed and suitable containers for disposal. Delivery to an approved waste disposal company. The contaminated area should be cleaned up immediately with: Water

6.4 Reference to other sections
See protective measures under point 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures
Measures to prevent fire
Use only antistatically equipped (spark-free) tools. Provide earthing of containers, equipment, pumps and ventilation facilities. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Measures to prevent aerosol and dust generation
During filling, metering and sampling should be used if possible: Closed devices

Environmental precautions
Do not empty into drains.

Specific requirements or handling rules
Remove contaminated, saturated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Protect against direct sunlight. Keep container tightly closed in a cool, well-ventilated place. Ensure adequate ventilation of the storage area. Suitable container/equipment material: Stainless steel Aluminium Iron. Unsuitable container/equipment material:

Hints on joint storage

Storage class (TRGS 510) : 3

Keep away from

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Oxidizing agent Strong acid

7.3 Specific end use(s)

Fuel for ethanol/gel fireplaces.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

ETHANOL ; CAS No. : 64-17-5

Limit value type (country of origin) : STEL (A)
Limit value : 2000 ppm / 3800 mg/m³
Remark : 15 min GKV 2018
Version :

Limit value type (country of origin) : TWA (A)
Limit value : 1000 ppm / 1900 mg/m³
Remark : 8h GKV 2018
Version :

Limit value type (country of origin) : GWBB (B)
Limit value : 1000 ppm / 1907 mg/m³
Remark : 8h
Version :

Limit value type (country of origin) : VLEP (B)
Limit value : 1000 ppm / 1907 mg/m³
Remark : 8h
Version :

Limit value type (country of origin) : STEL (CH)
Limit value : 1000 ppm / 1920 mg/m³
Remark : 15 min SuvaPro Grenzw. am Arb.platz 2018
Version :

Limit value type (country of origin) : TWA (CH)
Limit value : 500 ppm / 960 mg/m³
Remark : 8h SuvaPro Grenzwerte am Arb.platz 2018
Version :

Limit value type (country of origin) : STEL (D)
Limit value : 800 ppm / 1520 mg/m³
Remark : 15min
Version :

Limit value type (country of origin) : TRGS 900 (D)
Limit value : 200 ppm / 380 mg/m³
Peak limitation : 4(II)
Remark : Y 8h
Version : 01-09-2012

Limit value type (country of origin) : TGG 8 uren (DK)
Limit value : 1000 ppm / 1900 mg/m³
Remark : BEK nr 698 af 28/05/2020
Version :

Limit value type (country of origin) : VLE (F)
Limit value : 1000 ppm / 1900 mg/m³

Remark : VL 8h INRS ED 984
Version :

Limit value type (country of origin) : VLEP (F)
Limit value : 5000 ppm / 9500 mg/m³
Remark : VL 15min INRS ED 984
Version :

Limit value type (country of origin) : WEL (GB)
Limit value : 1000 ppm / 1920 mg/m³
Remark : 8h EH40/2005 (Third edition, publ. 2018
Version :

Limit value type (country of origin) : Exposure Limit (8h) (NL)
Limit value : 136 ppm / 260 mg/m³
Remark : H
Version : 01-10-2008

Limit value type (country of origin) : Exposure Limit (15min) (NL)
Limit value : 992 ppm / 1900 mg/m³
Remark : H
Version : 01-10-2008

PROPAN-2-OL ; CAS No. : 67-63-0

Limit value type (country of origin) : STEL (A)
Limit value : 800 ppm / 2000 mg/m³
Remark : 15 min
Version :

Limit value type (country of origin) : TWA (A)
Limit value : 200 ppm / 500 mg/m³
Remark : 8h
Version :

Limit value type (country of origin) : STEL (CH)
Limit value : 400 ppm / 1000 mg/m³
Remark : 15 min
Version :

Limit value type (country of origin) : TWA (CH)
Limit value : 200 ppm / 500 mg/m³
Remark : 8h
Version :

Limit value type (country of origin) : TRGS 900 (D)
Limit value : 200 ppm / 500 mg/m³
Peak limitation : 2(II)
Remark : Y 8h
Version : 02-07-2009

Limit value type (country of origin) : TGG 8 uren (DK)
Limit value : 200 ppm / 490 mg/m³
Remark : 8h
Version :

Limit value type (country of origin) : VLEP (F)
Limit value : 400 ppm / 980 mg/m³
Remark : 15min
Version :

Limit value type (country of origin) : STEL (GB)
Limit value : 500 ppm / 1250 mg/m³
Remark : 15 min
Version :

Limit value type (country of origin) : TWA (GB)
Limit value : 400 ppm / 999 mg/m³
Remark : 8h

Version :

BUTANONE ; CAS No. : 78-93-3

Limit value type (country of origin) : STEL (A)
Limit value : 200 ppm / 590 mg/m³
Remark : 30min GKV 2018
Version :

Limit value type (country of origin) : TWA (A)
Limit value : 100 ppm / 295 mg/m³
Remark : 8h GKV 2018
Version :

Limit value type (country of origin) : GWBB (B)
Limit value : 300 ppm / 900 mg/m³
Remark : 15min
Version :

Limit value type (country of origin) : GWBB (B)
Limit value : 200 ppm / 600 mg/m³
Remark : 8h
Version :

Limit value type (country of origin) : VLEP (B)
Limit value : 300 ppm / 900 mg/m³
Remark : 15min
Version :

Limit value type (country of origin) : VLEP (B)
Limit value : 200 ppm / 600 mg/m³
Remark : 8h
Version :

Limit value type (country of origin) : TRGS 900 (D)
Limit value : 200 ppm / 600 mg/m³
Peak limitation : 1(I)
Remark : H, Y
Version : 02-07-2009

Limit value type (country of origin) : TGG 8 uren (DK)
Limit value : 50 ppm / 145 mg/m³
Remark : H BEK nr. 1458 af 13/12/2019
Version :

Limit value type (country of origin) : STEL (EC)
Limit value : 300 ppm / 900 mg/m³
Remark : 15min
Version : 08-06-2000

Limit value type (country of origin) : TWA (EC)
Limit value : 200 ppm / 600 mg/m³
Remark : 8h
Version : 08-06-2000

Limit value type (country of origin) : VLE (F)
Limit value : 300 ppm / 900 mg/m³
Remark : 15min H
Version :

Limit value type (country of origin) : VLEP (F)
Limit value : 200 ppm / 600 mg/m³
Remark : 8h H
Version :

Limit value type (country of origin) : STEL (GB)
Limit value : 300 ppm / 899 mg/m³
Remark : 15min
Version :

Limit value type (country of origin) : TWA (GB)
Limit value : 200 ppm / 600 mg/m³
Remark : 8h
Version :

Limit value type (country of origin) : Exposure Limit (8h) (NL)
Limit value : 197 ppm / 590 mg/m³
Remark : H
Version :

Limit value type (country of origin) : Exposure Limit (15min) (NL)
Limit value : 300 ppm / 900 mg/m³
Remark : H
Version :

Biological limit values

PROPAN-2-OL ; CAS No. : 67-63-0

Limit value type (country of origin) : TRGS 903 (D)
Parameter : Acetone / Whole blood (B) / End of exposure or end of shift
Limit value : 25 mg/l
Version : 31-03-2004

Limit value type (country of origin) : TRGS 903 (D)
Parameter : Acetone / Urine (U) / End of exposure or end of shift
Limit value : 25 mg/l
Version : 31-03-2004

DNEL-/PNEC-values

DNEL/DMEL

ETHANOL ; CAS No. : 64-17-5

Limit value type : DNEL Consumer (systemic)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 114 mg/m³

Limit value type : DNEL Consumer (systemic)
Exposure route : Dermal
Exposure frequency : Long-term
Limit value : 206 Mg/kg bw/day

Limit value type : DNEL Consumer (systemic)
Exposure route : Oral
Exposure frequency : Long-term
Limit value : 87 Mg/kg bw/day

Limit value type : DNEL worker (local)
Exposure route : Inhalation
Exposure frequency : Short-term
Limit value : 1900 mg/m³

Limit value type : DNEL worker (systemic)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 950 mg/m³

Limit value type : DNEL worker (systemic)
Exposure route : Dermal
Exposure frequency : Long-term
Limit value : 343 Mg/kg bw/day

PROPAN-2-OL ; CAS No. : 67-63-0

Limit value type : DNEL Consumer (systemic)
Exposure route : Dermal
Exposure frequency : Long-term
Limit value : 319 Mg/kg bw/day

BUTANONE ; CAS No. : 78-93-3

Limit value type : DNEL Consumer (systemic)

Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 106 mg/m³
PROPAN-2-OL ; CAS No. : 67-63-0
Limit value type : DNEL Consumer (systemic)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 89 mg/m³
BUTANONE ; CAS No. : 78-93-3
Limit value type : DNEL Consumer (systemic)
Exposure route : Dermal
Exposure frequency : Long-term
Limit value : 412 Mg/kg bw/day
PROPAN-2-OL ; CAS No. : 67-63-0
Limit value type : DNEL Consumer (systemic)
Exposure route : Oral
Exposure frequency : Long-term
Limit value : 26 Mg/kg bw/day
BUTANONE ; CAS No. : 78-93-3
Limit value type : DNEL Consumer (systemic)
Exposure route : Oral
Exposure frequency : Long-term
Limit value : 31 Mg/kg bw/day
PROPAN-2-OL ; CAS No. : 67-63-0
Limit value type : DNEL worker (systemic)
Exposure route : Dermal
Exposure frequency : Long-term
Limit value : 888 Mg/kg bw/day
BUTANONE ; CAS No. : 78-93-3
Limit value type : DNEL worker (systemic)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 600 mg/m³
PROPAN-2-OL ; CAS No. : 67-63-0
Limit value type : DNEL worker (systemic)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 500 mg/m³
BUTANONE ; CAS No. : 78-93-3
Limit value type : DNEL worker (systemic)
Exposure route : Dermal
Exposure frequency : Long-term
Limit value : 1161 Mg/kg bw/day

PNEC

ETHANOL ; CAS No. : 64-17-5
Limit value type : PNEC (Aquatic, freshwater)
Exposure route : Water
Limit value : 0,96 mg/l
Limit value type : PNEC (Aquatic, intermittent release)
Exposure route : Water
Limit value : 2,75 mg/l
Limit value type : PNEC (Aquatic, marine water)
Exposure route : Water
Limit value : 0,79 mg/l
Limit value type : PNEC (Sediment, freshwater)
Exposure route : Sediment
Limit value : 3,6 mg/kg

Limit value type :	PNEC (Sediment, marine water)
Exposure route :	Sediment
Limit value :	2,9 mg/kg
Limit value type :	PNEC Soil, Freshwater
Exposure route :	Soil
Limit value :	0,63 mg/kg
Limit value type :	PNEC (Sewage treatment plant)
Exposure route :	Water (Including sewage plant)
Limit value :	580 mg/l
PROPAN-2-OL ; CAS No. : 67-63-0	
Limit value type :	PNEC (Aquatic, freshwater)
Exposure route :	Water
Limit value :	140,9 mg/l
BUTANONE ; CAS No. : 78-93-3	
Limit value type :	PNEC (Aquatic, freshwater)
Exposure route :	Water
Limit value :	55,8 mg/l
Limit value type :	PNEC (Aquatic, intermittent release)
Exposure route :	Water
Limit value :	55,8 mg/l
PROPAN-2-OL ; CAS No. : 67-63-0	
Limit value type :	PNEC (Aquatic, intermittent release)
Exposure route :	Water
Limit value :	140,9 mg/l
BUTANONE ; CAS No. : 78-93-3	
Limit value type :	PNEC (Aquatic, marine water)
Exposure route :	Water
Limit value :	55,8 mg/l
PROPAN-2-OL ; CAS No. : 67-63-0	
Limit value type :	PNEC (Aquatic, marine water)
Exposure route :	Water
Limit value :	140,9 mg/l
BUTANONE ; CAS No. : 78-93-3	
Limit value type :	PNEC (Sediment, freshwater)
Exposure route :	Sediment
Limit value :	284,74 mg/kg
PROPAN-2-OL ; CAS No. : 67-63-0	
Limit value type :	PNEC (Sediment, freshwater)
Exposure route :	Sediment
Limit value :	552 mg/kg
BUTANONE ; CAS No. : 78-93-3	
Limit value type :	PNEC (Sediment, marine water)
Exposure route :	Sediment
Limit value :	284,7 mg/kg
PROPAN-2-OL ; CAS No. : 67-63-0	
Limit value type :	PNEC (Sediment, marine water)
Exposure route :	Sediment
Limit value :	552 mg/kg
BUTANONE ; CAS No. : 78-93-3	
Limit value type :	PNEC Soil, Freshwater
Exposure route :	Soil
Limit value :	22,5 mg/kg
PROPAN-2-OL ; CAS No. : 67-63-0	
Limit value type :	PNEC Soil, Freshwater
Exposure route :	Soil
Limit value :	28 mg/kg
Limit value type :	PNEC (Secondary poisoning)

Exposure route : Oral
Limit value : 160 mg/kg

BUTANONE ; CAS No. : 78-93-3
Limit value type : PNEC (Sewage treatment plant)
Exposure route : Water purification
Limit value : 709 mg/l

PROPAN-2-OL ; CAS No. : 67-63-0
Limit value type : PNEC (Sewage treatment plant)
Exposure route : Water (Including sewage plant)
Limit value : 2251 mg/l

8.2 Exposure controls

Appropriate engineering controls

Use only in well-ventilated areas. Use explosion-proof machinery, apparatus, ventilation facilities, tools etc. Provide earthing of containers, equipment, pumps and ventilation facilities. Use only antistatically equipped (spark-free) tools. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

Personal protection equipment

Eye/face protection

Suitable eye protection
Eye glasses with side protection

Skin protection

Hand protection

Suitable gloves type : The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
Suitable material : Butyl caoutchouc (butyl rubber) Tetrafluoroethylene
Unsuitable material : NR (natural rubber, natural latex) PVA (Polyvinyl alcohol) PVC (polyvinyl chloride)
Required properties : liquid-tight.
Remark : DIN-/EN-Norms EN 420 EN ISO 374

Body protection

Protective clothing is not necessary for normal use.
Remark : Immediately remove any contaminated clothing, shoes or stockings. Wash contaminated clothing prior to re-use.

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Suitable respiratory protection apparatus Full-/half-/quarter-face masks (EN 136/140) Filtering device (full mask or mouthpiece) with filter: A

General information

Wash hands before breaks and after work.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Liquid

Colour colourless

Odour Alcohol

Safety characteristics

Freezing point :			-75	°C	
Density :	(15 °C)		0,75 - 0,85	g/cm³	
Water solubility :	(20 °C)		100	Weight-%	
pH :			6 - 9		
Relative vapour density :	(20 °C)	>	1	(air = 1)	
Melting point/freezing point : (ETHANOL)			-114	°C	
Initial boiling point and boiling range : (ETHANOL)	(1013 hPa)		78,2	°C	
Flash point : (ETHANOL)			13	°C	
Auto-ignition temperature : (ETHANOL)			363 - 425	°C	
Vapour pressure : (ETHANOL)	(20 °C)		57,3	hPa	Calculated
log P O/W : (ETHANOL)			-0,35		Estimated
Cinematic viscosity : (ETHANOL)	(20 °C)		1,2	mm²/s	Calculated
Decomposition temperature :	No data available(test not performed)				
Lower explosion limit :	No data available(test not performed)				
Upper explosion limit :	No data available(test not performed)				
Vapour pressure :	No data available(test not performed)				
Odour threshold :	No data available(test not performed)				
Particle characteristics	not applicable				
Oxidising liquids :	Not oxidising.				
Explosive properties :	Not applicable.				

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

Be aware that gases can spread at ground level (heavier than air) and pay attention to the wind direction. This material is combustible and can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment).

10.2 Chemical stability

Stable under normal conditions of use

10.3 Possibility of hazardous reactions

Violent reaction with: Oxidising agent, strong. Strong acid

10.4 Conditions to avoid

This material is combustible and can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment). Keep away from sources of ignition - No smoking. Use only antistatically equipped (spark-free) tools.

10.5 Incompatible materials

Violent reaction with: Oxidizing agent. Strong acid

10.6 Hazardous decomposition products

Carbon monoxide Carbon dioxide.

SECTION 11: Toxicological information

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

Acute toxicity

Acute oral toxicity

Parameter :	LD50 (ETHANOL ; CAS No. : 64-17-5)
Exposure route :	Oral
Species :	Rat
Effective dose :	10470 mg/kg bw
Method :	OECD 401
Parameter :	LD50 (PROPAN-2-OL ; CAS No. : 67-63-0)
Exposure route :	Oral
Species :	Rat
Effective dose :	5840 mg/kg
Result :	Minimally Toxic.
Method :	OECD 401
Parameter :	LD50 (BUTANONE ; CAS No. : 78-93-3)
Exposure route :	Oral
Species :	Rat
Effective dose :	2193 mg/kg bw
Method :	OECD 423

Acute dermal toxicity

Parameter :	LD50 (PROPAN-2-OL ; CAS No. : 67-63-0)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	13900 mg/kg
Result :	Minimally Toxic.
Method :	OECD 402
Parameter :	LD50 (BUTANONE ; CAS No. : 78-93-3)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	> 8100 Mg/kg bw/day
Exposure time :	24 h
Method :	OECD 402

Acute inhalation toxicity

Parameter :	LC50 (ETHANOL ; CAS No. : 64-17-5)
Exposure route :	Inhalation
Species :	Rat
Effective dose :	124,7 mg/l
Exposure time :	4 h
Method :	OECD 403
Parameter :	LC50 (BUTANONE ; CAS No. : 78-93-3)
Exposure route :	Inhalation
Species :	Rat
Effective dose :	> 20 mg/l
Exposure time :	4 h
Parameter :	LC50 (PROPAN-2-OL ; CAS No. : 67-63-0)

Exposure route :	Inhalation
Species :	Rat
Effective dose :	> 25000 mg/m³
Exposure time :	6 h
Result :	Minimally Toxic.
Method :	OECD 403

Corrosion

Skin corrosion/irritation

Parameter :	Skin corrosion/irritation (ETHANOL ; CAS No. : 64-17-5)
Species :	Rabbit
Exposure time :	24 h
Result :	Non-irritant
Method :	OECD 404
Parameter :	Skin corrosion/irritation (PROPAN-2-OL ; CAS No. : 67-63-0)
Species :	Rabbit
Exposure time :	4 h
Result :	Non-irritant
Parameter :	Skin corrosion/irritation (BUTANONE ; CAS No. : 78-93-3)
Species :	Rabbit
Exposure time :	4 h
Result :	Non-irritant
Method :	OECD 404

Result : non-irritant.

Serious eye damage/eye irritation

Parameter :	Serious eye damage/eye irritation (ETHANOL ; CAS No. : 64-17-5)
Species :	Rabbit
Exposure time :	14 day
Result :	Irritant
Method :	OECD 405
Parameter :	Serious eye damage/eye irritation (PROPAN-2-OL ; CAS No. : 67-63-0)
Species :	Rabbit
Exposure time :	24 h
Result :	Irritant
Method :	OECD 405
Parameter :	Serious eye damage/eye irritation (BUTANONE ; CAS No. : 78-93-3)
Species :	Rabbit
Exposure time :	24 h
Result :	Irritant
Method :	OECD 405

Result : Causes serious eye irritation.

Respiratory or skin sensitisation

Skin sensitisation

Parameter :	Skin sensitisation (ETHANOL ; CAS No. : 64-17-5)
Species :	Mouse
Result :	Not sensitising.
Method :	OECD 429
Parameter :	Skin sensitisation (PROPAN-2-OL ; CAS No. : 67-63-0)
Species :	Guinea pig
Result :	Not sensitising.
Method :	OECD 406
Parameter :	Skin sensitisation (BUTANONE ; CAS No. : 78-93-3)
Species :	Guinea pig
Result :	Not sensitising.
Method :	OECD 406

Sensitisation to the respiratory tract

Parameter : Sensitisation to the respiratory tract (ETHANOL ; CAS No. : 64-17-5)
Result : Not sensitising.

Repeated dose toxicity (subacute, subchronic, chronic)

Subacute oral toxicity

Parameter : LOAEL(C) (ETHANOL ; CAS No. : 64-17-5)
Exposure route : Oral
Species : Rat
Effective dose : 3160 mg/kg
Exposure time : 98 day
Method : OECD 408

Subacute inhalation toxicity

Parameter : LOAEC (ETHANOL ; CAS No. : 64-17-5)
Exposure route : Inhalation
Species : Rat
Effective dose : 1,3 mg/l
Exposure time : 12 month(s)

Additional information

Specific effects: Frequently or prolonged contact with skin may cause dermal irritation. Gastrointestinal complaints Causes damage to liver through prolonged or repeated exposure if swallowed. May cause damage to heart through prolonged or repeated exposure if swallowed. Ingestion causes nausea, weakness and central nervous system effects.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

Parameter : NOAEL(C) (ETHANOL ; CAS No. : 64-17-5)
Exposure route : Oral
Species : Rat
Effective dose : > 3000 Mg/kg bw/day
Exposure time : 728 day
Result : Negative.
Method : OECD 451
Parameter : NOAEC (ETHANOL ; CAS No. : 64-17-5)
Exposure route : Inhalation
Species : Rat
Effective dose : >= 1,3 ppm
Exposure time : 24 month(s)
Result : Negative.
Method : OECD 453
Parameter : NOEL(C) (PROPAN-2-OL ; CAS No. : 67-63-0)
Exposure route : Inhalation
Species : Rat
Effective dose : 5000 ppm
Exposure time : 728 day
Result : Negative.
Method : OECD 451

Assessment/classification

This substance does not meet the criteria for classification as CMR category 1A or 1B according to CLP.

Germ cell mutagenicity

In vitro mutagenicity

Parameter : Gene-mutations mammalian cells (ETHANOL ; CAS No. : 64-17-5)
Species : Mouse lymphoma cells
Result : Negative.
Method : OECD 476
Parameter : Gene-mutations microrganisms (PROPAN-2-OL ; CAS No. : 67-63-0)
Exposure route : In vitro mutagenicity
Species : Salmonella typhimurium

Result : Negative.
Method : OECD 471 (Ames test)
Parameter : Gene-mutations microrganisms (BUTANONE ; CAS No. : 78-93-3)
Result : Negative.
Method : OECD 471 (Ames test)

In vivo mutagenicity

Parameter : Chromosomal aberrations (ETHANOL ; CAS No. : 64-17-5)
Exposure route : Oral
Species : Mouse
Exposure time : 5 day
Result : Negative.
Method : OECD 478
Parameter : In vivo mutagenicity (PROPAN-2-OL ; CAS No. : 67-63-0)
Species : Mouse
Result : Negative.
Method : OECD 474
Parameter : In vivo mutagenicity (BUTANONE ; CAS No. : 78-93-3)
Species : Mouse
Result : Negative.
Method : OECD 474

Assessment/classification

This substance does not meet the criteria for classification as CMR category 1A or 1B according to CLP.

Reproductive toxicity

Adverse effects on sexual function and fertility

Parameter : NOAEL(C) (ETHANOL ; CAS No. : 64-17-5)
Exposure route : Oral
Species : Mouse
Effective dose : 20700 mg/kg
Exposure time : 126 day
Result : Negative.
Method : OECD 416
Parameter : NOAEL(C) (PROPAN-2-OL ; CAS No. : 67-63-0)
Exposure route : Oral
Species : Rat
Effective dose : 853 Mg/kg bw/day
Exposure time : 21 day
Result : Negative.
Method : OECD 415
Parameter : NOAEL(C) (BUTANONE ; CAS No. : 78-93-3)
Species : Rat
Effective dose : 1644 - 1771 Mg/kg bw/day
Result : Negative.
Method : OECD 416

Adverse effects on developmental toxicity

Parameter : NOAEL(C) (ETHANOL ; CAS No. : 64-17-5)
Exposure route : Inhalation
Species : Rat
Effective dose : >= 20000 ppm
Exposure time : 20 day
Result : Negative.
Method : OECD 414
Parameter : NOAEL(C) (PROPAN-2-OL ; CAS No. : 67-63-0)
Exposure route : Oral
Species : Rat
Effective dose : 400 Mg/kg bw/day
Exposure time : 10 day
Result : Negative.

Method :	OECD 414
Parameter :	NOAEC(C) (BUTANONE ; CAS No. : 78-93-3)
Species :	Rat
Effective dose :	1002 ppm
Exposure time :	10 day
Result :	Negative.
Method :	OECD 414

Assessment/classification

This substance does not meet the criteria for classification as CMR category 1A or 1B according to CLP.

STOT-repeated exposure

STOT RE 1 and 2

Parameter :	STOT RE 1 and 2 (PROPAN-2-OL ; CAS No. : 67-63-0)
Exposure route :	Rat
Effective dose :	5000 ppm
Exposure time :	728 day
Result :	Negative.
Parameter :	STOT RE 1 and 2 (BUTANONE ; CAS No. : 78-93-3)
Exposure route :	Rat
Effective dose :	5041 ppm
Exposure time :	65 day
Result :	Negative.

11.2 Information on other hazards

No information available.

SECTION 12: Ecological information

12.1 Toxicity

The substance/mixture does not fullfill the criteria of the acute aquatic toxicity according to Regulation (EC) No 1272/2008 [CLP], Annex I.

Aquatic toxicity

Acute (short-term) fish toxicity

Parameter :	LC50 (ETHANOL ; CAS No. : 64-17-5)
Species :	Pimephales promelas (fathead minnow)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	15300 mg/l
Exposure time :	96 h
Parameter :	LC50 (PROPAN-2-OL ; CAS No. : 67-63-0)
Species :	Pimephales promelas (fathead minnow)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	9640 - 10000 mg/l
Exposure time :	96 h
Method :	OECD 203
Parameter :	LC50 (BUTANONE ; CAS No. : 78-93-3)
Species :	Pimephales promelas (fathead minnow)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	2993 mg/l
Exposure time :	96 h
Method :	OECD 203

Chronic (long-term) fish toxicity

Parameter :	ChV (ETHANOL ; CAS No. : 64-17-5)
Species :	Fish
Evaluation parameter :	Chronic (long-term) fish toxicity
Effective dose :	245 mg/l
Exposure time :	30 day

Acute (short-term) toxicity to crustacea

Parameter :	LC50 (ETHANOL ; CAS No. : 64-17-5)
Species :	Ceriodaphnia dubia
Evaluation parameter :	Acute (short-term) daphnia toxicity
Effective dose :	5012 mg/l
Exposure time :	48 h
Parameter :	EC50 (BUTANONE ; CAS No. : 78-93-3)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) daphnia toxicity
Effective dose :	308 mg/l
Exposure time :	48 h
Method :	OECD 202
Parameter :	LC50 (PROPAN-2-OL ; CAS No. : 67-63-0)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) daphnia toxicity
Effective dose :	> 10000 mg/l
Exposure time :	24 h
Method :	OECD 202

Chronic (long-term) toxicity to aquatic invertebrate

Parameter :	NOEC (ETHANOL ; CAS No. : 64-17-5)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Chronic (long-term) daphnia toxicity
Effective dose :	9,6 mg/l
Exposure time :	9 day
Parameter :	NOEC (PROPAN-2-OL ; CAS No. : 67-63-0)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Chronic (long-term) daphnia toxicity
Effective dose :	2344 µmol/l
Exposure time :	16 day

Acute (short-term) toxicity to algae and cyanobacteria

Parameter :	ErC50 (ETHANOL ; CAS No. : 64-17-5)
Species :	Chlorella vulgaris
Evaluation parameter :	Acute (short-term) algae toxicity
Effective dose :	275 mg/l
Exposure time :	3 day
Parameter :	ErC50 (BUTANONE ; CAS No. : 78-93-3)
Species :	Pseudokirchneriella subcapitata
Evaluation parameter :	Acute (short-term) algae toxicity
Effective dose :	1972 mg/l
Exposure time :	72 h
Method :	OECD 201
Parameter :	LOEC (PROPAN-2-OL ; CAS No. : 67-63-0)
Species :	Algae
Evaluation parameter :	Acute (short-term) algae toxicity
Effective dose :	1000 mg/l
Exposure time :	8 day

Toxicity to microorganisms

Parameter :	EC50 (ETHANOL ; CAS No. : 64-17-5)
Species :	Paramaecium caudatum
Effective dose :	5800 mg/l
Exposure time :	4 h
Parameter :	Bacteria toxicity (BUTANONE ; CAS No. : 78-93-3)
Species :	Pseudomonas putida
Effective dose :	1150 mg/l
Exposure time :	16 h
Parameter :	Bacteria toxicity (PROPAN-2-OL ; CAS No. : 67-63-0)
Species :	Pseudomonas putida

Effective dose :	1050 mg/l
Exposure time :	16 h
Parameter :	EC50 (PROPAN-2-OL ; CAS No. : 67-63-0)
Species :	Bacteria toxicity
Effective dose :	41676 mg/l
Exposure time :	30 min

12.2 Persistence and degradability

Abiotic degradation

Parameter :	Photo-chemical elimination (ETHANOL ; CAS No. : 64-17-5)
Species :	Photo-chemical elimination
Degradation rate :	500000 cm^3
Test duration :	40 h
Parameter :	Photo-chemical elimination (PROPAN-2-OL ; CAS No. : 67-63-0)
Species :	Photo-chemical elimination
Degradation rate :	1500000 cm^3
Test duration :	17,6 h

Biodegradation

Parameter :	Biodegradation (ETHANOL ; CAS No. : 64-17-5)
Inoculum :	Degree of elimination
Degradation rate :	84 %
Test duration :	20 day
Evaluation :	Biodegradable.
Parameter :	Biodegradation (BUTANONE ; CAS No. : 78-93-3)
Inoculum :	Degree of elimination
Degradation rate :	98 %
Test duration :	28 day
Method :	OECD 301D
Parameter :	Biodegradation (PROPAN-2-OL ; CAS No. : 67-63-0)
Inoculum :	Degree of elimination
Degradation rate :	53 %
Test duration :	5 day
Evaluation :	Biodegradable.
Parameter :	Biodegradation (PROPAN-2-OL ; CAS No. : 67-63-0)
Inoculum :	Degree of elimination
Degradation rate :	95 %
Test duration :	21 day
Method :	OECD 301E

Biodegradable.

12.3 Bioaccumulative potential

Parameter :	Bioconcentration factor (BCF) (ETHANOL ; CAS No. : 64-17-5)
	Cyprinus carpio (Common Carp)
Value :	1 - 4,5
	72 h
Parameter :	Bioconcentration factor (BCF) (PROPAN-2-OL ; CAS No. : 67-63-0)
Value :	3
Parameter :	Partition coefficient n-octanol /water (log P O/W) (ETHANOL ; CAS No. : 64-17-5)
Value :	-0,35
Parameter :	Partition coefficient n-octanol /water (log P O/W) (PROPAN-2-OL ; CAS No. : 67-63-0)
Value :	0,05
Parameter :	Partition coefficient n-octanol/water (log value) (BUTANONE ; CAS No. : 78-93-3)
Value :	0,3

Assessment/classification

No indication of bioaccumulation potential.

12.4 Mobility in soil

Adsorption

Parameter :	Soil (ETHANOL ; CAS No. : 64-17-5)
Effective dose :	13,7 %
Parameter :	Water (ETHANOL ; CAS No. : 64-17-5)
Effective dose :	33,1 %
Parameter :	Air (ETHANOL ; CAS No. : 64-17-5)
Effective dose :	53,2 %
Parameter :	Sediment (ETHANOL ; CAS No. : 64-17-5)
Effective dose :	0,1 %
Parameter :	Log KOW (PROPAN-2-OL ; CAS No. : 67-63-0)
Effective dose :	0,18505
Parameter :	Log KOW (BUTANONE ; CAS No. : 78-93-3)
Effective dose :	0,654 - 1,281

Assessment/classification

If product enters soil, it will be mobile and may contaminate groundwater.

12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Endocrine disrupting properties

There is no evidence of endocrine disrupting properties.

12.7 Other adverse effects

Contains the following fluorinated greenhous gas (chemical name): None
Contains the following substances that deplete the ozone layer: None
If product enters soil, it will be mobile and may contaminate groundwater.

12.8 Additional ecotoxicological information

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Delivery to an approved waste disposal company.
Handle contaminated packages in the same way as the substance itself. Do not allow to enter into surface water or drains.

Directive 2008/98/EC (Waste Framework Directive)

Before intended use

Waste codes/waste designations according to EWC/AVV

Waste code : 15 01 02* plastic packaging
Waste code : 15 01 10* packaging containing residues of or contaminated by dangerous substances
Waste code : 13 07 03* other fuels (including mixtures)

After intended use

Waste codes/waste designations according to EWC/AVV

Waste code : 15 01 02* plastic packaging
Waste code : 15 01 10* packaging containing residues of or contaminated by dangerous substances
Waste code : 13 07 03* other fuels (including mixtures)

SECTION 14: Transport information

14.1 UN number

UN 1993

14.2 UN proper shipping name

Land transport (ADR/RID)

FLAMMABLE LIQUID, N.O.S. (ETHANOL · METHYL ETHYL KETONE)

Sea transport (IMDG)
FLAMMABLE LIQUID, N.O.S. (ETHANOL · METHYL ETHYL KETONE)
Air transport (ICAO-TI / IATA-DGR)
FLAMMABLE LIQUID, N.O.S. (ETHANOL · METHYL ETHYL KETONE)

14.3 Transport hazard class(es)

Land transport (ADR/RID)

Class(es) :	3
Classification code :	F1
Hazard identification number (Kemler No.) :	33
Tunnel restriction code :	D/E
Special provisions :	640D · LQ 1 l · E 2
Hazard label(s) :	3

Sea transport (IMDG)

Class(es) :	3
EmS-No. :	F-E / S-E
Special provisions :	LQ 1 l · E 2
Hazard label(s) :	3

Air transport (ICAO-TI / IATA-DGR)

Class(es) :	3
Special provisions :	E 2
Hazard label(s) :	3

14.4 Packing group

II

14.5 Environmental hazards

Land transport (ADR/RID) : No
Sea transport (IMDG) : No
Air transport (ICAO-TI / IATA-DGR) : No

14.6 Special precautions for user

None

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information

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

EU legislation
Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Authorisations and/or restrictions on use
Restrictions on use
Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)
Use restriction according to REACH annex XVII, no. : 3
Other regulations (EU)
Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]
This mixture is a VOC according to 2010/75/EC.
Directive 2004/42/EC on the limitation of emissions of volatile organic compounds
This mixture is a VOC according to 2004/42/EC.
National regulations
Water hazard class
Classification according to AwSV - Class : 1 (Slightly hazardous to water)
slightly hazardous to water Classification according to VwVwS, Annex 4.

Additional information

ICPE code: 4331

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture.

SECTION 16: Other information

16.1 Indication of changes

MSDS according to Regulation EU 2020/878.

16.2 Abbreviations and acronyms

a.i. = Active ingredient
ACGIH = American Conference of Governmental Industrial Hygienists (US)
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road
AFFF = Aqueous Film Forming Foam
AISE = International Association for Soaps, Detergents and Maintenance Products (joint project of AISE and CEFIC)
AOAC = AOAC International (formerly Association of Official Analytical Chemists)
aq. = Aqueous
ASTM = American Society of Testing and Materials (US)
atm = Atmosphere(s)
B.V. = Beperkt Vennootschap (Limited)
BCF = Bioconcentration Factor
bp = Boiling point at stated pressure
bw = Body weight
ca = (Circa) about
CAS No = Chemical Abstracts Service Number (see ACS - American Chemical Society)
CEFIC = European Chemical Industry Council (established 1972)
CIPAC = Collaborative International Pesticides Analytical Council
CLP = REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Conc = Concentration
cP = CentiPoise
cSt = Centistokes
d = Day(s)
DIN = Deutsches Institut für Normung e.V.
DNEL = Derived No-Effect Level
DT50 = Time for 50% loss; half-life
EbC50 = Median effective concentration (biomass, e.g. of algae)
EC = European Community; European Commission
EC50 = Median effective concentration
EINECS = European Inventory of Existing Commercial Chemical Substances (EU, outdated, now replaced by EC Number)
ELINCS = European List of Notified (New) Chemicals (see Tab 7, Background - Guide)
ErC50 = Median effective concentration (growth rate, e.g. of algae)
EU = European Union
EWC = European Waste Catalogue
FAO = Food and Agriculture Organization (United Nations)
GIFAP = Groupement International des Associations Nationales de Fabricants de Produits Agrochimiques (now CropLife International)
h = Hour(s)
hPa = HectoPascal (unit of pressure)
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IC50 = Concentration that produces 50% inhibition
IMDG Code = International Maritime Dangerous Goods Code
IMO = International Maritime Organization
ISO = International Organization for Standardization
IUCLID = International Uniform Chemical Information Database
IUPAC = International Union of Pure and Applied Chemistry
kg = Kilogram
Kow = Distribution coefficient between n-octanol and water
kPa = KiloPascal (unit of pressure)
LC50 = Concentration required to kill 50% of test organisms

LD50 = Dose required to kill 50% of test organisms
LEL = Lower Explosive Limit/Lower Explosion Limit
LOAEL = Lowest observed adverse effect level
mg = Milligram
min = Minute(s)
ml = Milliliter
mmHg = Pressure equivalent to 1 mm of mercury (133.3 Pa)
mp = Melting point
MRL = Maximum Residue Limit
MSDS = Material Safety Data Sheet
n.o.s. = Not Otherwise Specified
NIOSH = National Institute for Occupational Safety and Health (US)
NOAEL = No Observed Adverse Effect Level
NOEC = No observed effect concentration
NOEL = No Observable Effect Level
NOx = Oxides of Nitrogen
OECD = Organization for Economic Cooperation and Development
OEL = Occupational Exposure Limits
Pa = Pascal (unit of pressure)
PBT = Persistent, Bioaccumulative or Toxic
pH = -log10 hydrogen ion concentration
pKa = -log10 acid dissociation constant
PNEC = Previsible Non Effect Concentration
POPs = Persistent Organic Pollutants
ppb = Parts per billion
PPE = Personal Protection Equipment
ppm = Parts per million
ppt = Parts per trillion
PVC = Polyvinyl Chloride
QSAR = Quantitative Structure-Activity Relationship
REACH = Registration, Evaluation and Authorization of CHemicals (EU, see NCP)
SI = International System of Units
STEL = Short-Term Exposure Limit
tech. = Technical grade
TSCA = Toxic Substances Control Act (US)
TWA = Time-Weighted Average
vPvB = Very Persistent and Very Bioacccumulative
WHO = World Health Organization = OMS
y = Year(s)

16.3 Key literature references and sources for data

None

16.4 Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Based on test data.

16.5 Relevant H- and EUH-phrases (Number and full text)

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

16.6 Training advice

None

16.7 Additional information

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of

mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.