Antwerp Luxury Candle Supplies

ETHANOL 99,8% DENATURED EU 2017/1112 (I)

Version 1.0 Print Date 13.05.2023

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

1.1. Product identifier

Trade name	:	ETHANOL 99,8% DENATURED EU 2017/1112 (I)
REACH Status	:	Each component of the product is either registered or exempted from registration obligations according to REACH Regulation (EC) No 1907/2006
UFI	:	31GT-T04G-900S-2730
UFI code notified in	:	Belgium, Germany, Denmark, Estonia, Spain, Croatia, Ireland, Iceland, Lithuania, Luxembourg, Latvia, Malta, Netherlands, Norway, Portugal, Sweden

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

Use of the Substance/Mixture	:	Solvent, Technical applications., Industrial application
Uses advised against	:	At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Antwerp Luxury Candle Supplies
Oostmalsebaan 1c /5
2960 Brecht
mail@luxurycandlesupplies.eu

Phone:+32 343 043 40
www.luxurycandlesupplies.eu

1.4. Emergency telephone number

Emergency telephone number	:	Belgium: Antipoison Center - Brussels TEL: +32(0)70 245 245 Netherland: National Poisoning Information Center - Bilthoven TEL: +31(0) 88 755 8000 (Only for the purpose of informing medical personnel in cases of acute intoxications)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008			
Hazard class	**Hazard category**	**Target Organs**	**Hazard statements**
Flammable liquids	Category 2	---	H225
Eye irritation	Category 2	---	H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

Most important adverse effects

Human Health : See section 11 for toxicological information.

Physical and chemical hazards : Vapours may form explosive mixtures with air.

Potential environmental effects : See section 12 for environmental information.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard symbols :

Signal word : Danger

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

Precautionary statements

Prevention :
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response : P303 + P361 + P353 IF ON SKIN (or hair): Take off

	immediately all contaminated clothing. Rinse skin with water.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)	
		Hazard class / Hazard category	Hazard statements
ethanol			
Index-No. : 603-002-00-5 CAS-No. : 64-17-5 EC-No. : 200-578-6 EU REACH-Reg. No. : 01-2119457610-43-xxxx	>= 97	Flam. Liq.2 Eye Irrit.2 specific concentration limit Eye Irrit. 2; H319 >= 50 %	H225 H319
propan-2-ol			
Index-No. : 603-117-00-0 CAS-No. : 67-63-0 EC-No. : 200-661-7 EU REACH-Reg. No. : 01-2119457558-25-xxxx	1	Flam. Liq.2 Eye Irrit.2 STOT SE3	H225 H319 H336
butanone			
Index-No. : 606-002-00-3 CAS-No. : 78-93-3 EC-No. : 201-159-0 EU REACH- : 01-2119457290-43-xxxx	1	Flam. Liq.2 Eye Irrit.2 STOT SE3	H225 H319 H336

Reg. No.				EUH066
Denatonium benzoate				
CAS-No.	: 3734-33-6	0,001	Acute Tox.4 Oral	H302
EC-No.	: 223-095-2		Skin Irrit.2	H315
			Eye Irrit.2	H319
			STOT SE3	H335
			Acute toxicity estimate Acute oral toxicity: 584 mg/kg Acute dermal toxicity: 2000,01 mg/kg	

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice : Remove from exposure, lie down. Take off all contaminated clothing immediately.

If inhaled : Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position. If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 5 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.

If swallowed : Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position. Call a physician immediately.

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

Symptoms : See Section 11 for more detailed information on health effects and symptoms.

Effects : See Section 11 for more detailed information on health effects and symptoms.

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

Treatment : Treat symptomatically.For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	:	High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	The vapour may be invisible, heavier than air and spread along ground. Vapours may form explosive mixtures with air. Flash back possible over considerable distance.
Hazardous combustion products	:	Carbon monoxide, Carbon dioxide (CO2), Heating or fire can release toxic gas.

5.3. Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.Wear personal protective equipment.
Further advice	:	Cool closed containers exposed to fire with water spray.Heating will cause a pressure rise - with risk of bursting.Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Keep away from heat and sources of ignition. Use personal protective equipment. Keep away unprotected persons. Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours or spray mist.

6.2. Environmental precautions

Environmental precautions	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.

See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Keep container tightly closed. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Keep in an area equipped with solvent resistant flooring.

Advice on protection against fire and explosion : Keep away from sources of ignition - No smoking. The vapour may be invisible, heavier than air and spread along ground. Vapours may form explosive mixtures with air. Take measures to prevent the build up of electrostatic charge. Use only in an area containing explosion proof equipment.

Further information on storage conditions : Keep tightly closed in a dry and cool place. Keep away from direct sunlight. Keep in a well-ventilated place.

Advice on common storage : Incompatible with oxidizing agents. Do not store together with oxidizing and self-igniting products. Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

Specific use(s) : No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component:	ethanol	CAS-No. 64-17-5
Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)		

DNEL

Workers, Long-term - systemic effects, Inhalation : 950 mg/m3

DNEL Workers, Acute - local effects, Inhalation	:	1900 mg/m3
DNEL Workers, Long-term - systemic effects, Skin contact	:	343 mg/kg bw/day
DNEL Consumers, Long-term - systemic effects, Inhalation	:	114 mg/m3
DNEL Consumers, Acute - local effects, Inhalation	:	950 mg/m3
DNEL Consumers, Long-term - systemic effects, Skin contact	:	206 mg/kg bw/day
DNEL Consumers, Long-term - systemic effects, Ingestion	:	87 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

Fresh water	:	0,96 mg/l
Marine water	:	0,79 mg/l
Intermittent releases	:	2,75 mg/l
Sewage treatment plant (STP)	:	580 mg/l
Fresh water sediment	:	3,6 mg/kg d.w.
Marine sediment	:	2,9 mg/kg d.w.
Soil	:	0,63 mg/kg d.w.
Secondary poisoning	:	380 mg/kg food

Other Occupational Exposure Limit Values

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Time Weighted Average (TWA):
1.000 ppm, 1.907 mg/m3

Netherlands. OELs (binding), as amended, Skin designation:
Can be absorbed through the skin.

Netherlands. OELs (binding), as amended, Short Term Exposure Limit (STEL):
1.900 mg/m3, (15 minutes)
Section B: List of Carcinogens

Netherlands. OELs (binding), as amended, Time Weighted Average (TWA):

260 mg/m3
Section B: List of Carcinogens

Component:	propan-2-ol	CAS-No. 67-63-0

Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL Workers, Long-term - systemic effects, Skin contact	:	888 mg/kg bw/day
DNEL Workers, Long-term - systemic effects, Inhalation	:	500 mg/m3
DNEL Consumers, Long-term - systemic effects, Skin contact	:	319 mg/kg bw/day
DNEL Consumers, Long-term - systemic effects, Inhalation	:	89 mg/m3
DNEL Consumers, Long-term - systemic effects, Ingestion	:	26 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

Fresh water	:	140,9 mg/l
Marine water	:	140,9 mg/l
Intermittent releases	:	140,9 mg/l
Sewage treatment plant (STP)	:	2251 mg/l
Sediment	:	552 mg/kg d.w.
Soil	:	28 mg/kg
Secondary poisoning	:	160 mg/kg food

Other Occupational Exposure Limit Values

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Time Weighted Average (TWA):
200 ppm, 500 mg/m3

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Short Term Exposure Limit (STEL):
400 ppm, 1.000 mg/m3, (15 minutes)

Component:	butanone	CAS-No. 78-93-3

Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL
Workers, Long-term - systemic effects, Skin contact : 1161 mg/kg bw/day

DNEL
Workers, Long-term - systemic effects, Inhalation : 600 mg/m3

DNEL
Consumers, Long-term - systemic effects, Skin contact : 412 mg/kg bw/day

DNEL
Consumers, Long-term - systemic effects, Inhalation : 106 mg/m3

DNEL
Consumers, Long-term - systemic effects, Ingestion : 31 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

Fresh water	:	55,8 mg/l
Marine water	:	55,8 mg/l
Intermittent releases	:	55,8 mg/l
Sewage treatment plant (STP)	:	709 mg/l
Sediment	:	284,7 mg/kg dry weight (d.w.)
Soil	:	22,5 mg/kg
Secondary poisoning	:	1000 mg/kg food

Other Occupational Exposure Limit Values

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):
200 ppm, 600 mg/m3
Indicative

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Short Term Exposure Limit (STEL):
300 ppm, 900 mg/m3
Indicative

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Time Weighted Average (TWA):
200 ppm, 600 mg/m3

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Short Term Exposure Limit (STEL):
300 ppm, 900 mg/m3, (15 minutes)

Netherlands. OELs (binding), as amended, Short Term Exposure Limit (STEL):
900 mg/m3, (15 minutes)

Netherlands. OELs (binding), as amended, Time Weighted Average (TWA):
590 mg/m3

Netherlands. OELs (binding), as amended, Skin designation:
Can be absorbed through the skin.

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):
200 ppm, 600 mg/m3
Indicative

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Short Term Exposure Limit (STEL):
300 ppm, 900 mg/m3
Indicative

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice	:	In case of insufficient ventilation, wear suitable respiratory equipment. When aerosol or mist is formed use suitable respiratory protection. Respiratory protection complying with EN 141. Combination filter: A-P2

Hand protection

Advice	:	Protective gloves complying with EN 374. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Protective gloves should be replaced at first signs of wear.
Material	:	butyl-rubber
Break through time	:	> 480 min
Glove thickness	:	0,7 mm

Eye protection

Advice	:	Safety goggles

Skin and body protection

Advice	:	Wear personal protective equipment.

Environmental exposure controls

General advice	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	:	No data available
Physical state	:	liquid
Colour	:	colourless
Odour	:	No data available
Odour Threshold	:	No data available
Freezing point	:	No data available
Boiling point/boiling range	:	ca. 78 °C
Flammability	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	12 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Self-Accelerating decomposition temperature (SADT)	:	No data available
pH	:	6 - 8 (20 °C) Concentration: 10 g/l
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available

Flow time	:	No data available
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Dissolution Rate	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Dispersion Stability	:	No data available
Vapour pressure	:	No data available
Relative density	:	No data available
Density	:	No data available
Bulk density	:	No data available
Relative vapour density	:	No data available

Particle characteristics
No data available

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Advice : Reacts violenty with strong oxidizing agents.

10.2. Chemical stability

Advice : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : Vapours may form explosive mixture with air.

10.4. Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5. Incompatible materials

Materials to avoid : Strong oxidizing agents, Alkaline earth metals, Alkali metals, Strong acids and strong bases, Peroxides, Metals, metal salts, Halogens, Combustible materials

10.6. Hazardous decomposition products

Hazardous decomposition : Under fire conditions: Carbon oxides products

SECTION 11: Toxicological information

11.1. Information on the hazard classes within the meaning of Regulation (EC) No. 1272/2008

Data for the product	
Acute toxicity	
Oral	
Based on available data, the classification criteria are not met.	
Inhalation	
Based on available data, the classification criteria are not met.	
Dermal	
Based on available data, the classification criteria are not met.	
Irritation	
Skin	
Result	: Based on available data, the classification criteria are not met.
Eyes	
Result	: Causes serious eye irritation.
Sensitisation	
Result	: Based on available data, the classification criteria are not met.
CMR effects	
CMR Properties	
Carcinogenicity	: Based on available data, the classification criteria are not met.
Mutagenicity	: Based on available data, the classification criteria are not met.
Reproductive toxicity	: Based on available data, the classification criteria are not met.
Specific Target Organ Toxicity	
Single exposure	
Remarks	: Based on available data, the classification criteria are not met.
Repeated exposure	
Remarks	: Based on available data, the classification criteria are not met.
Other toxic properties	

Repeated dose toxicity

No data available

Aspiration hazard

Based on available data, the classification criteria are not met.,

Component:		**ethanol**	**CAS-No. 64-17-5**

Acute toxicity

Oral

LD50 : 10470 mg/kg (Rat, male and female) (OECD Test Guideline 401)

Inhalation

LC50 : 51 mg/l (Rat; 4 h; vapour) (OECD Test Guideline 403)

Dermal

LD50 : > 2000 mg/kg (Rabbit) (OECD Test Guideline 402)

Irritation

Skin

Result : No skin irritation (Rabbit) (OECD Test Guideline 404)

Eyes

Result : Causes serious eye irritation. (Rabbit) (OECD Test Guideline 405)

Sensitisation

Result : not sensitizing (Guinea pig) (Maximisation Test)
not sensitizing (Mouse) (OECD Test Guideline 429)
not sensitizing (Inhalation; Rat)

CMR effects

Carcinogenicity

NOAEL : > 4.000 mg/kg bw/day
(Mouse, female)(Target Organs: Liver)(Oral; 105 weeks; Frequency of treatment: 5 days/week)

NOAEL : > 4.250 mg/kg bw/day

		(Mouse, male)(Target Organs: Liver)(Oral; 105 weeks; Frequency of treatment: 5 days/week)(OPPTS 870.4200)
NOAEL	:	> 3.000 mg/kg bw/day (Rat)(OECD Test Guideline 451)

CMR Properties

Carcinogenicity	:	Animal testing did not show any carcinogenic effects.
Mutagenicity	:	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects
Teratogenicity	:	It is not considered teratogenic.
Reproductive toxicity	:	It is not considered toxic for reproduction.

Genotoxicity in vitro

Result	:	negative (Ames test; Salmonella typhimurium) (OECD Test Guideline 471) negative (Mouse Lymphoma Cells) (OECD Test Guideline 476) Positive as well as negative results were obtained. (Bacterial Reverse Mutation Test; Escherichia coli) (No guideline followed)

Genotoxicity in vivo

Result	:	Positive as well as negative results were obtained. (Dominant lethal assay; Mouse, male) (Oral; 5 days) (OECD Test Guideline 478) negative (Chromosome aberration test in vivo; Hamster, male and female) (Oral;) (OECD Test Guideline 475) negative (In vivo micronucleus test; Mouse) (OECD Test Guideline 475)

Teratogenicity

LOAEL Develop.	:	8.200 mg/kg bw/day (Rat, Sprague-Dawley)(6 Weeks)(No guideline followed)Reduced skeletal ossification.
NOAEL Develop.	:	5.200 mg/kg bw/day (Rat, Sprague-Dawley)(6 Weeks)(No guideline followed)
NOAEL Maternal	:	>= 20.000 ppm
NOAEL Teratog.	:	16.000 ppm (Rat, Sprague-Dawley)(Inhalation; 10,000, 16,000, 20,000 ppm; 7 hours/day)(OECD Test Guideline 414)Reduced maternal food consumption

Reproductive toxicity

NOAEL Parent	:	21,5 mg/kg bw/day (Mouse, male and female)(OECD Test Guideline 416)No negative effects.
NOAEL F1	:	13,8 mg/kg bw/day (Mouse, male and female)(OECD Test Guideline 416)Reduction in sperm motility.

Specific Target Organ Toxicity

Single exposure

Remarks	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated exposure

Remarks	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties

Repeated dose toxicity

NOAEL	:	1730 mg/kg bw/day (Rat, female)(Oral; 90-day) (OECD Test Guideline 408), Target Organs: Liver
NOAEL	:	> 20 mg/l (Rat, male)(Inhalation; 21 days) (OECD Test Guideline 403)

Aspiration hazard

No aspiration toxicity classification,

Further information

Other relevant toxicity information	:	Exposure to ethanol vapors may result in irritation of the eyes and nose, drowsiness and headache. Other symptoms may include stupor, nausea, mental excitement or depression, vomiting, flushing and coma. It can cause irritation of the respiratory tract, intra ocular tension, ataxia, sleepiness, narcosis, impaired perception and incoordination. It can also cause lowered inhibitions, dizziness, shallow respiration, unconsciousness and death. Chronic symptoms of ingestion and/or vapor exposure may include weight loss, cirrhosis of the liver, gastroenteritis, anorexia,

diarrhea, polyneuritis with pain, motor and sensory loss in the extremities, optic atrophy and loss or impairment of other abilities, excitement, acute and chronic gastritis, malabsorption syndrome, acute and chronic pancreatitis, anemia due to acute or chronic blood myopathy, alcoholic cardiomyopathy, lactic acidosis, hypomagnesemia, hypouricemia, hyperlipidemia, pulmonary aspiration and respiratory infections. Chronic exposure may also result in serious neurological and mental disorders (e.g. brain damage, memory loss, sleep disturbances, and psychoses). Other symptoms include mucous membrane irritation, central nervous system depression, giddiness, jaundice, pain in upper abdomen on the right side and staggering gait. It may cause liver, kidney and heart damage. The pupils are sometimes widely dilated and unreactive to light. The liquid can defat the skin, producing a dermatitis characterized by drying and fissuring. It rarely causes temporary blindness. Ingestion of this compound can enhance the effects of coumarin, anticoagulants, antihistamines, hypnotics, sedatives, tranquilizers, insulin, monoamine oxidase inhibitors, and antidepressants. Can cause reproductive and teratogenic effects

Experience with human exposure	:	Repeated and prolonged exposure to solvents may cause brain and nervous system damage.,

Component:		**propan-2-ol**	**CAS-No. 67-63-0**
Acute toxicity			
Oral			
LD50	:	5840 mg/kg (Rat) (OECD Test Guideline 401)	
Inhalation			
LC50	:	> 25 mg/l (Rat; 6 h; vapour) (OECD Test Guideline 403)	
Dermal			
LD50	:	13900 mg/kg (Rabbit) (OECD Test Guideline 402)	
Irritation			
Skin			
Result	:	No skin irritation (OECD Test Guideline 404)Degreases the skin which may cause dry and rough. Prolonged or repeated skin contact may result in dermatitis.	
Eyes			
Result	:	Eye irritation (OECD Test Guideline 405)Splashes in eyes may cause strong pain. Vapour acts irritant.	

Sensitisation

Result	:	not sensitizing (Buehler Test; Dermal; Guinea pig) (OECD Test Guideline 406)

CMR effects

Carcinogenicity

NOEL	:	5.000 ppm (negative, Mouse, male and female)(Inhalation; 0, 500, 2500, 5000 ppm; 78 weeks; Frequency of treatment: 5 days/week)(OECD Test Guideline 451)

CMR Properties

Carcinogenicity	:	Based on available data, the classification criteria are not met.
Mutagenicity	:	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects
Teratogenicity	:	No effects on or via lactation
Reproductive toxicity	:	Based on available data, the classification criteria are not met.

Genotoxicity in vitro

Result	:	negative (Bacterial Reverse Mutation Test; Salmonella typhimurium; with and without metabolic activation) (OECD Test Guideline 471) negative (In vitro gene mutation study in mammalian cells; CHO (Chinese Hamster Ovary) cells; with and without metabolic activation) (OECD Test Guideline 476)

Genotoxicity in vivo

Result	:	negative (In vivo micronucleus test; Mouse, male and female) (intraperitoneal;) (OECD Test Guideline 474)

Teratogenicity

NOAEL Maternal	:	400 mg/kg bw/day
NOAEL Develop.	:	400 mg/kg bw/day (Rat, Sprague-Dawley)(Oral)(OECD Test Guideline 414)No adverse effects

Reproductive toxicity

NOAEL	:	853 mg/kg bw/day

Parent		
		(One-Generation Reproduction Toxicity Study; Rat, wistar, male and female)(Oral)(OECD Test Guideline 415)No negative effects.
NOAEL	:	500 mg/kg bw/day
Parent		
		(Two-generation reproductive toxicity; Rat, Sprague-Dawley, male and female)(Oral)(OECD Test Guideline 416)No negative effects.

Specific Target Organ Toxicity

Single exposure

Inhalation	:	Target Organs: Central nervous systemMay cause drowsiness or dizziness.

Repeated exposure

Remarks	:	Oral and inhalation repeated exposure studies demonstrated target organ effects in male rats (kidney) and male and female mice (thyroid) by mechanisms of action that are not relevant to humans

Other toxic properties

Aspiration hazard

Aspiration hazard if swallowed - can enter lungs and cause damage.
Aspiration may cause pulmonary oedema and pneumonitis.
Based on available data, the classification criteria are not met.,

Component:	**butanone**	**CAS-No. 78-93-3**

Acute toxicity

Oral

LD50	:	> 2193 mg/kg (Rat) (OECD Test Guideline 423)

Inhalation

LC50	:	34 mg/l (Rat; 4 h)

Dermal

LD50	:	> 5000 mg/kg (Rabbit) (OECD Test Guideline 402)

Irritation

Skin

Result	:	No skin irritation (Rabbit; 4 h) (OECD Test Guideline

404)Repeated exposure may cause skin dryness or cracking.

Eyes

Result	:	Eye irritation (Rabbit) (OECD Test Guideline 405)

Sensitisation

Result	:	not sensitizing (Buehler Test; Dermal; Guinea pig) (OECD Test Guideline 406)

CMR effects

CMR Properties

Carcinogenicity	:	Not expected to be carcinogenic.
Mutagenicity	:	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects
Teratogenicity	:	Animal testing did not show any effects on foetal development.
Reproductive toxicity	:	Not expected to impair fertility. Read-across (Analogy)

Genotoxicity in vitro

Result	:	negative (rat hepatocytes) (OECD Test Guideline 473) negative (Mouse Lymphoma Cells) (OECD Test Guideline 476) negative (Salmonella typhimurium) (OECD Test Guideline 471)

Genotoxicity in vivo

Result	:	negative (Mouse, male and female) (OECD Test Guideline 474)

Teratogenicity

NOAEC Develop.	:	1.002 ppm (Rat)(18 d; 7 hours/day)(OECD Test Guideline 414)Based on available data, the classification criteria are not met.
LOAEC Develop.	:	3.000 ppm (Rat)(18 d; 7 hours/day)(OECD Test Guideline 414)Body weight loss

Specific Target Organ Toxicity

Single exposure

Remarks	:	Target Organs: Central nervous systemMay cause drowsiness or

dizziness.

Repeated exposure

Remarks : No known significant effects or critical hazards.

Other toxic properties

Repeated dose toxicity

NOAEC : 5041 ppm

(Rat, male and female)(Inhalation; vapour; 4 month; 6 hours/day) (OECD Test Guideline 413); No adverse effect has been observed with repeated intake in toxicity tests.

Aspiration hazard

No aspiration toxicity classification,

Further information

Experience with human exposure : Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Chronic exposure may cause dermatitis.,

Component:	**Denatonium benzoate**	**CAS-No. 3734-33-6**

Acute toxicity

Oral

LD50 : 584 mg/kg (Rat)

Dermal

LD50 : > 2000 mg/kg (Rabbit)

Irritation

Skin

Result : Irritating to skin.

Eyes

Result : Irritating to eyes.

11.2. Information on other hazards

Data for the product		
	Endocrine disrupting properties	
Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Component:	**propan-2-ol**	**CAS-No. 67-63-0**
	Endocrine disrupting properties	
Assessment	:	No information available about endocrine disruption properties for human health.

Component:	**butanone**	**CAS-No. 78-93-3**
	Endocrine disrupting properties	
Assessment	:	No information available about endocrine disruption properties for human health.

SECTION 12: Ecological information

12.1. Toxicity

Data for the product		
	Acute toxicity	
	Short-term (acute) aquatic hazard	
Result	:	Based on available data, the classification criteria are not met.
	Chronic toxicity	
	Long-term (chronic) aquatic hazard	
Result	:	Based on available data, the classification criteria are not met.

Component:	**ethanol**	**CAS-No. 64-17-5**
	Acute toxicity	
	Fish	
LC50	:	15.300 mg/l (Pimephales promelas (fathead minnow); 96 h) (flow-through test; US-EPA)
LC50		11.200 mg/l (Salmo gairdneri; 24 h) (flow-through test; US-EPA)
LC50		13.000 mg/l (Oncorhynchus mykiss; 96 h) (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates		
EC50	:	858 mg/l (Artemia salina; 24 h) (OECD Test Guideline 202)Marine water
EC50		12.340 mg/l (Daphnia magna (Water flea); 48 h) (ASTM E 729-80)Fresh water
LC50		5.012 mg/l (Ceriodaphnia dubia (water flea); 48 h) (static test; ASTM E 729-80)Fresh water

algae		
EC50	:	275 mg/l (Chlorella vulgaris (Fresh water algae); 72 h) (static test; End point: Growth rate; OECD Test Guideline 201)Fresh water
EC10		11,5 mg/l (Chlorella vulgaris (Fresh water algae); 72 h) (static test; OECD Test Guideline 201)

Bacteria		
EC50	:	5800 mg/l (Paramaecium caudatum; 4 h) (static test; No guideline followed)

Chronic toxicity

Fish		
NOEC	:	245 mg/l (30 d) (QSAR)

Aquatic invertebrates	
NOEC	9,6 mg/l (Ceriodaphnia dubia (water flea); 10 d) (semi-static test; End point: Reproduction; No guideline followed)
NOEC	79 mg/l (Palaemonetes pugio; 12 d) (static test)

Component:	**propan-2-ol**	**CAS-No. 67-63-0**

Acute toxicity

Fish		
LC50	:	9.640 mg/l (Pimephales promelas, mortality; 96 h) (flow-through test; OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

LC50	:	9.714 mg/l (Daphnia magna, mortality; 24 h) (static test; OECD Test Guideline 202)

algae

EC50	:	> 100 mg/l (Scenedesmus subspicatus; 72 h)
LOEC		1000 mg/l (algae; 8 d)

Bacteria

EC50	:	> 100 mg/l (Bacteria) no harming action

Component:	**butanone**	**CAS-No. 78-93-3**

Acute toxicity

Fish

LC50	:	2.993 mg/l (Pimephales promelas; 96 h) (static test; OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

EC50	:	308 mg/l (Daphnia magna; 48 h) (static test; OECD Test Guideline 202)

algae

EC50	:	1972 mg/l (Pseudokirchneriella subcapitata (green algae); 72 h) (static test; End point: Growth rate; OECD Test Guideline 201)

Bacteria

EC0	:	1150 mg/l (Pseudomonas putida; 16 h) (static test; DIN 38412)

Component:	**Denatonium benzoate**	**CAS-No. 3734-33-6**

Acute toxicity

Fish

LC50	:	> 1.000 mg/l (Salmo gairdneri; 96 h)

Toxicity to daphnia and other aquatic invertebrates		
EC50	:	13 mg/l (Daphnia magna (Water flea); 48 h)

12.2. Persistence and degradability

Component:	ethanol	CAS-No. 64-17-5
Persistence and degradability		
Persistence		
Result	:	(Related to: Water) non-significant hydrolysis
Biodegradability		
Result	:	97 % (aerobic; activated sludge; Related to: CO2 formation (% of the theoretical value).; Exposure Time: 28 d)(OECD Test Guideline 301B)Readily biodegradable.

Component:	propan-2-ol	CAS-No. 67-63-0
Persistence and degradability		
Persistence		
Result	:	Transformation due to hydrolysis not expected to be significant. Transformation due to photolysis not expected to be significant.
Biodegradability		
Result	:	53 % (aerobic; domestic sewage; Related to: O2 consumption; Exposure Time: 5 d)(Directive 67/548/EEC, Annex V, C.5)Readily biodegradable.

Component:	butanone	CAS-No. 78-93-3
Persistence and degradability		
Persistence		
Result	:	Transformation due to hydrolysis not expected to be significant. Transformation due to photolysis not expected to be significant.
Biodegradability		
Result	:	98 % (Exposure Time: 28 d)(OECD Test Guideline 301D)Readily biodegradable.

12.3. Bioaccumulative potential

Component:	ethanol	CAS-No. 64-17-5

Bioaccumulation		
Result	:	log Kow -0,35 (24 °C; pH 7,4) (OECD Test Guideline 107)
	:	BCF: 0,66; Does not bioaccumulate.

Component:	propan-2-ol	CAS-No. 67-63-0
Bioaccumulation		
Result	:	log Kow 0,05 (25 °C)
	:	Bioaccumulation is not expected.

Component:	butanone	CAS-No. 78-93-3
Bioaccumulation		
Result	:	log Kow 0,3 (40 °C)
	:	Does not bioaccumulate.

12.4. Mobility in soil

Component:	ethanol	CAS-No. 64-17-5
Mobility		
Water	:	The product is water soluble.
Air	:	The product evaporates readily.
Soil	:	Not expected to adsorb on soil.

Component:	propan-2-ol	CAS-No. 67-63-0
Mobility		
Water	:	The product is water soluble.
Soil	:	Mobile in soils

Component:	butanone	CAS-No. 78-93-3
Mobility		
Water	:	Expected to remain in water or migrate through soil., The product is partly soluble in water.

12.5. Results of PBT and vPvB assessment

Data for the product		
Results of PBT and vPvB assessment		
Result	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Component:	ethanol	CAS-No. 64-17-5

Results of PBT and vPvB assessment

Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Component:	propan-2-ol	CAS-No. 67-63-0

Results of PBT and vPvB assessment

Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Component:	butanone	CAS-No. 78-93-3

Results of PBT and vPvB assessment

Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6. Endocrine disrupting properties

Data for the product

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Component:	propan-2-ol	CAS-No. 67-63-0

Endocrine disrupting potential : No information available about endocrine disruption properties for environment.

Component:	butanone	CAS-No. 78-93-3

Endocrine disrupting potential : No information available about endocrine disruption properties for environment.

12.7. Other adverse effects

Data for the product

Additional ecological information

Result : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

Result :

Component:	ethanol	CAS-No. 64-17-5

Biochemical Oxygen Demand (BOD)		
Result	:	100 mg/g

Chemical Oxygen Demand (COD)		
Result	:	1900 mg/g

Additional ecological information		
Result	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

Component:	propan-2-ol	CAS-No. 67-63-0

Additional ecological information		
Result	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

Component:	butanone	CAS-No. 78-93-3

Additional ecological information		
Result	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product	:	Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services. This product shall be disposed of or recovered in compliance with Directive 2008/98/EC on waste as lastly amended.
Contaminated packaging	:	Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations. Do not burn, or use a cutting torch on, the empty drum. Risk of explosion.
European Waste Catalogue Number	:	No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

14.1. UN number or ID number

1170

14.2. UN proper shipping name

ADR : ETHANOL SOLUTION
RID : ETHANOL SOLUTION
IMDG : ETHANOL SOLUTION

14.3. Transport hazard class(es)

ADR-Class	: 3
(Labels; Classification Code; Hazard Identification Number; Tunnel restriction code)	3; F1; 33; (D/E)
RID-Class	: 3
(Labels; Classification Code; Hazard Identification Number)	3; F1; 33
IMDG-Class	: 3
(Labels; EmS)	3; F-E, S-D

14.4. Packaging group

ADR : II
RID : II
IMDG : II

14.5. Environmental hazards

Environmentally hazardous according to ADR	: no
Environmentally hazardous according to RID	: no
Marine Pollutant according to IMDG-Code	: no

14.6. Special precautions for user

Not applicable.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Component:	**ethanol**	**CAS-No. 64-17-5**

EU. Chemicals Subject to PIC Procedure: : ; The substance/mixture does not fall under this legislation.

Regulation 649/2012/EU on export and import of dangerous chemicals, as amended		
EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC)	:	Point Nos.: , 3; Listed Point Nos.: , 40; Listed
EU. Regulation No 1451/2007 [Biocides], Annex I, OJ (L 325)	:	EC Number: , 200-578-6; Listed
EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I	:	Qualifying quantity for the application of Lower-tier requirements: 5.000 tonnes; Part 1: Categories of dangerous substances; Flammable liquids, Categories 2 or 3 not covered by P5a and P5b, The information given is valid if the product is stored below the boiling point and at a pressure of 1013 hPa. Qualifying quantity for the application of Upper-tier requirements: 50.000 tonnes; Part 1: Categories of dangerous substances; Flammable liquids, Categories 2 or 3 not covered by P5a and P5b, The information given is valid if the product is stored below the boiling point and at a pressure of 1013 hPa.
Netherlands. Substances toxic to reproduction, as amended	:	Hazard Designation: ; May cause harm to breastfed babies.
Netherlands. Carcinogenic substances and processes, as amended	:	Hazard Designation: ; Carcinogenic
Netherlands. Substances toxic to reproduction, as amended	:	Hazard Designation: 1A; May cause harm to the unborn child.

Netherlands. Substances toxic to reproduction, as amended	:	Hazard Designation: 1A; May impair fertility.

Component:	**propan-2-ol**	**CAS-No. 67-63-0**

EU. Chemicals Subject to PIC Procedure: Regulation 649/2012/EU on export and import of dangerous chemicals, as amended	:	; The substance/mixture does not fall under this legislation.
EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC)	:	Point Nos.: , 40; For professional users only.; Listed Point Nos.: , 75; Listed Point Nos.: , 3; Listed
EU. Regulation No 1451/2007 [Biocides], Annex I, OJ (L 325)	:	EC Number: , 200-661-7; Listed
EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I	:	Qualifying quantity for the application of Lower-tier requirements: 5.000 tonnes; Part 1: Categories of dangerous substances; Flammable liquids, Categories 2 or 3 not covered by P5a and P5b, The information given is valid if the product is stored below the boiling point and at a pressure of 1013 hPa. Qualifying quantity for the application of Upper-tier requirements: 50.000 tonnes; Part 1: Categories of dangerous substances; Flammable liquids, Categories 2 or 3 not covered by P5a and P5b, The information given is valid if the product is stored below the boiling point and at a pressure of 1013 hPa.

Component:	**butanone**	**CAS-No. 78-93-3**

EU. Regulation EC No. 689/2008	:	; The substance/mixture does not fall under this legislation.
EU. Regulation 273/2004, Drug Precursors, Category 3	:	Scheduled substance Combined Nomenclature (CN) code: , 2914 12 00; Combined Nomenclature designation

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC)	:	Point Nos.: , 3; Listed Point Nos.: , 40; Listed Point Nos.: , 75; Listed
EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I	:	Qualifying quantity for the application of Lower-tier requirements: 50 tonnes; Part 1: Categories of dangerous substances; P5b:Flammable liquids Category 2 or 3 where particular processing conditions, such as high pressure or high temperature, may create major-accident hazards;, The information given is valid if the product is stored below the boiling point and at a pressure of 1013 hPa. Qualifying quantity for the application of Upper-tier requirements: 200 tonnes; Part 1: Categories of dangerous substances; P5b:Flammable liquids Category 2 or 3 where particular processing conditions, such as high pressure or high temperature, may create major-accident hazards;, The information given is valid if the product is stored below the boiling point and at a pressure of 1013 hPa.

Component:	**Denatonium benzoate**	**CAS-No. 3734-33-6**

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I	:	; The substance/mixture does not fall under this legislation.

15.2. Chemical safety assessment

The Exposure Scenarios in Annex of this Safety Data Sheet are referring to Ethanol
A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 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.

Full text of the Notes referred to under section 3.

Abbreviations and Acronyms

AU AIICL	Australia. Industrial Chemicals Act (AIIC) List
BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
DSL	Canada. Environmental Protection Act, Domestic Substances List
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ENCS (JP)	Japan. Kashin-Hou Law List
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IECSC	China. Inventory of Existing Chemical Substances
INSQ	Mexico. National Inventory of Chemical Substances
ISHL (JP)	Japan. Inventory of Industrial Safety & Health
KECI (KR)	Korea. Existing Chemicals Inventory
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level
LOEL	lowest observed effect level
NDSL	Canada. Environmental Protection Act. Non-Domestic Substances List
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
NZIOC	New Zealand. Inventory of Chemicals
OECD	Organisation for Economic Cooperation and Development
OEL	occupational exposure limit
ONT INV	Canada. Ontario Inventory List
PBT	persistent, bioaccumulative and toxic
PHARM (JP)	Japan. Pharmacopoeia Listing
PICCS (PH)	Philippines. Inventory of Chemicals and Chemical Substances
PNEC	predicted no-effect concentration
REACH Auth. No.:	REACH Authorisation Number

REACH AuthAppC. No.	REACH Authorisation Application Consultation Number
STOT	specific target organ toxicity
SVHC	substance of very high concern
TCSI	Taiwan. Existing Chemicals Inventory
TH INV	Thailand. Existing Chemicals Inventory from FDA
TSCA	US. Toxic Substances Control Act
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
VN INVL	Vietnam. National Chemical Inventory
vPvB	very persistent and very bioaccumulative

Further information

Key literature references and sources for data	:	Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
Methods used for product classification	:	The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
Hints for trainings	:	The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
Other information	:	The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.