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

1.1 Product identification:

Product name/name:	ETHANOL 99.8% (3% ISOPROPANOL)
REACH Status :	Each component of the product is either registered or exempt from registration obligations under REACH Regulation (EC) No 1907/2006.

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

Use of the substance or mixture:	Cleaning agent, Technical uses.
Uses advised against :	No advised uses are currently identified.

1.3 Details of the supplier of the safety data sheet:

Responsible distributor :	ASSYST bvba / A.S.O.W. bvba Hellegatstraat 13a 2590 Berlaar Belgium Tel: +32 495 50 61 14 / +32 496 83 70 27 Website: www.assyst.org / www.artsuppliesonweb.com Email: ao@assyst.org / vera.opsommer@assyst.org

1.4 Emergency phone number:

For Belgium:	Call the **Poison Control Centre (070 245 245 - free)**, if not available: **02 264 96 30** (normal rate) or your doctor. In life-threatening situations, always call the European emergency number **112**.
NHS 24 Direct	For help from a GP, visit your GP surgery's website, use an online service to contact your GP, or call the surgery. **For urgent medical help**, use the NHS 111 online service, or **call 111** if you are unable to get help online. **For life-threatening emergencies, call 999** for an ambulance. There is more information about getting medical help on the NHS website.

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture:

Classification according to directive (EC) No 1272/2008 and its amendments.

Flammable liquids Category 2 --- H225
Eye irritation Category 2 --- H319
For the full text of H phrases referred to in this section, see section 16.

Most significant adverse effects

Human health : See section 11 for toxicological information.
Physical and chemical hazards: See section 9/10 for physicochemical information.
Potential environmental effects : See section 12 for information on the environment.

2.2 Labelling elements:

Labelling according to regulation (EC) No 1272/2008 [CLP/GHS]:

Hazard pictograms:
Signal word: Danger
Contains:

- ✓ Ethanol

Hazard statements:

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

Safety recommendations:
Prevention:
P210 Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. Do not smoke.
P233 Keep in tightly closed container.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): remove contaminated clothing immediately. Rinse skin with water.
P337 + P313 In case of persistent eye irritation: consult a doctor.
P370 + P378 In case of fire: extinguish with dry sand or alcohol-resistant foam.
2.3 Other hazards:
This substance/mixture does not contain any components that can be considered 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 any components believed 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 level 0.1% or higher.
Toxicological information:
The substance/mixture does not contain any components believed 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 level 0.1% or higher.

SECTION 3: Composition and information on ingredients

3.2 Mixtures:

Component	Classification	Concentration *
ethanol Index No : 603-002-00-5 CAS No : 64-17-5 EC No : 200-578-6 EC Registration : 01-2119457610-43	Flam. Liq.2 H225 Eye Irrit.2 H319 Specific concentration limits Eye Irrit. 2; H319 >= 50 %	> 90 - <= 100
propane-2-ol Index No. : 603-117-00-0 CAS No : 67-63-0 EC No : 200-661-7 EC Registration : 01-2119457558-25	Flam. Liq.2 H225 Eye Irrit.2 H319 STOT SE3 H336	>= 3 - < 10

For the full text of H phrases referred to in this section, see section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures:
General advice :
Remove exposure, put down.
Remove contaminated clothing immediately.
When inhaled :
Transfer to fresh air.
In case of irregular breathing or respiratory arrest, apply artificial respiration.
If unconscious, lay person on his side.
Consult a doctor after significant exposure.
On contact with skin :
Immediately wash with soap and plenty of water.
In case of persistent skin irritation, consult a doctor.
On contact with eyes :
Rinse immediately with plenty of water, including under the eyelids, for at least 5 minutes.
Immediately consult an ophthalmologist.
Go to an eye hospital if possible.

If swallowed :
Clean mouth with water and then drink lots of water.
Never let an unconscious person drink (or eat).
DO NOT induce vomiting.
Placing someone lying on their back and vomiting in a stable side position.
Call a doctor immediately.
4.2. Main acute and delayed symptoms and effects
Symptoms :
Inhalation of high vapour concentrations may cause symptoms such as headache, dizziness, fatigue, nausea and vomiting.
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 immediate medical attention and special
Treatment
Symptomatic treatment.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media:
Suitable extinguishing agents
Use water spray, alcohol-resistant foam, drying powder or carbon dioxide.
Unsuitable extinguishing agents
Strong water jet.
5.2 Special hazards arising from the substance or mixture
Specific hazards in firefighting :
The vapour may be invisible, heavier than air and spread over the ground.
Vapours can form explosive mixtures with air.
Fire recoil possible over a considerable distance.
The product is insoluble and floats on water.
Hazardous combustion products:
Carbon monoxide, Carbon dioxide (CO2)
5.3 Advice for firefighters
Special protective equipment for firefighters:
In case of fire, wear a compressed air mask.
Wear personal protective clothing.
Further advice :
Cool closed containers near the fire with water spray.
Pressure increase when heated - risk of cracking.
Collect contaminated firefighting water separately.
It should not drain to the sewerage system.

SECTION 6: Measures in case of accidental release of the substance or mixture

6.1 Personal precautions, protective equipment and emergency procedures:
Personal precautions
Keep away from heat and ignition sources.
Use personal protective equipment.
Keep unprotected persons away.
Ensure sufficient air ventilation.
Avoid contact with eyes and skin.
Do not inhale vapours or spray mist.
6.2 Environmental precautions
Environmental precautions

Do not drain into surface water or the sewerage system.
Avoid penetration into the soil.
6.3 Containment and cleaning methods and materials
Containment and cleaning methods and material:
Contain spill and collect with non-combustible absorbent materials, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).
6.4. Reference to other sections
See Section 1 for emergency contact details.
See Section 8 for information on personal protective equipment.
See section 13 for information on waste treatment.

SECTION 7: Handling and storage:

7.1 Precautions for safe handling of the substance or mixture:
Safe handling advice:
Keep in tightly closed container.
Ensure adequate ventilation.
Use personal protective equipment.
Avoid contact with eyes, skin and clothing.
Do not inhale vapours or spray mist.
In an emergency, eye showers should be available nearby.
Hygiene measures:
Keep away from food, drink and animal feed.
No smoking, eating and drinking in the workplace.
Wash hands before every work break and at the end of the working day.
Remove all soiled clothing immediately.
7.2 Conditions for safe storage, including incompatible products
Requirements for storage areas and containers:
Store in original container.
Store in an area fitted with a solvent-resistant floor.
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 over the ground.
Vapours can form explosive mixtures with air.
Take measures to prevent the generation of electrostatic charge.
Use only in an area equipped with explosion-proof equipment.
Details of storage conditions:
Store tightly closed in a dry and cool place.
Do not expose to direct sunlight.
Store in a well-ventilated place.
Advice for mixed storage:
Incompatible with oxidising agents.
Do not store together with oxidising and self-igniting products.
Keep away from food, drink and animal feed.
7.3 Specific end use
Specific use :
No data available.

SECTION 8: Exposure controls/personal protection measures

8.1 Control parameters:
Component: ethanol CAS No 64-17-5
Derived no-effect doses (DNEL) / derived minimum effect (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 Consumer, 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)
Freshwater: 0.96 mg/l
Seawater: 0.79 mg/l
Intermittent releases: 2.75 mg/l
Wastewater treatment plant: 580 mg/l
Freshwater deposition: 3.6 mg/kg dry weight
Sea deposits: 2.9 mg/kg dry weight
Soil: 0.63 mg/kg dry weight
Secondary poisoning: 380 mg/kg of food
Other occupational exposure limits
Belgium.
OEL, Time-weighted average (TWA): 1,000 ppm, 1,907 mg/m3
Netherlands.
OEL (binding), Skin indication: On contact, the substance may be absorbed through the skin
Netherlands.
OEL (binding), Short-term exposure limit (STEL): 1,900 mg/m3, (15 minutes) Section B: list of carcinogens
Netherlands.
OEL (binding), Time Weighted Average (TGG): 260 mg/m3 Section B: list of carcinogens
Component: propane-2-ol CAS No 67-63-0
Derived no-effect doses (DNEL) / derived minimum effect (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)
Freshwater: 140.9 mg/l
Seawater: 140.9 mg/l
Intermittent releases: 140.9 mg/l
Wastewater treatment plant: 2251 mg/l
Sediment: 552 mg/kg dry weight
Soil: 28 mg/kg
Secondary poisoning: 160 mg/kg of food
Other occupational exposure limits
Belgium.
OEL, Time-weighted average (TWA): 200 ppm, 500 mg/m3
Belgium.
OEL, Short-term exposure limit (STEL) 400 ppm, 1,000 mg/m3, (15 minutes)
8.2 Exposure control measures
Appropriate technical measures
See protective measures in sections 7 and 8.
Personal protective equipment
Respiratory protection
Opinion :
In case of inadequate ventilation, wear suitable respiratory protection.
When aerosol or mist is formed, use suitable respiratory protection.

Respiratory protection according to EN 141.
Filter type A for organic gases and vapours.
Filter type: A, brown.

Hand protection

Opinion :
Protective gloves according to EN 374.
Observe regulations on permeability and soak time, as provided by the glove supplier.
Also take into account specific local conditions of use, such as danger of cuts, wear and tear and touch time.
Safety gloves should be replaced when worn.
Material : butyl rubber
Breakthrough time : > 480 min
Glove thickness : 0.7 mm

Eye protection

Opinion :
Safety dust goggles

Skin and body protection

Opinion :
Solvent-resistant protective clothing.

Managing environmental exposure

General advice :
Do not drain into surface water or the sewerage system.
Avoid penetration into the soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Physical state:	Liquid
Colour:	colourless
Odour:	alcoholic
Odour threshold value:	No data available
Melting/freezing point:	-95 °C
Boiling point/boiling range:	approximately 80 °C
Flammability:	No data available
Upper explosion limit:	No data available
Lower explosion limit:	No data available
Flash point:	approximately 16 °C
Self-ignition temperature:	No data available
Decomposition temperature:	No data available
Self-accelerating decomposition temperature (SADT):	No data available
pH:	around 7 Concentration: 100 %

Viscosity

Viscosity, dynamic:	No data available
Viscosity, kinematic:	No data available
Expiry time:	No data available
Solubility in water:	No data available
Solubility in other solvents:	No data available
Decomposition rate:	No data available
Partition coefficient: n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	approximately 57.26 hPa
Relative density:	No data available
Density:	approximately 0.8 g/cm3

Bulk specific gravity:	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:
Opinion :
No decomposition if stored and applied as indicated.
10.2. Chemical stability
Opinion :
Stable under recommended storage conditions.
10.3. Possible hazardous reactions
Dangerous reactions :
Exothermic reaction.
10.4. Conditions to avoid
Conditions to avoid:
Heat, flames and sparks.
10.5. Incompatible materials
Materials to avoid :
Strong oxidising agents.
10.6. Hazardous decomposition products
Hazardous decomposition products:
In case of fire: Carbon oxides.

SECTION 11: Toxicological information
11.1 Information on toxicological effects:
Information on hazard classes as defined in Regulation (EC) No 1272/2008
Data for the product
Acute toxicity
Oral
Acute toxicity estimates : > 2000 mg/kg) (Calculation method).
Based on available data; classification criteria not met.
Inhalation
Acute toxicity estimates: > 20 mg/l (4 h; vapours) (Calculation method).
Classification based on the calculation method according to CLP regulation.
Skin
Acute toxicity estimates: > 2000 mg/kg) (Calculation method).
Not classified based on the calculation method according to the CLP regulation.
Irritation
Skin
Result : Based on available data; classification criteria not met.
Eyes
Result : Causes severe eye irritation.
Sensitisation
Result : Based on available data; classification criteria not met.
CMR effects
CMR properties
Carcinogenicity :
Based on available data; classification criteria not met.
Mutagenicity :

Based on available data; classification criteria not met.
Teratogenicity :
Based on available data; classification criteria not met.
Specific target organ toxicity
Single exposure
Comments : Based on available data; classification criteria not met.
Repeated exposure
Comments : Based on available data; classification criteria not met.
Other toxic properties
Repeated-dose toxicity
No data available
Aspiration hazard
Based on available data; classification criteria not met.
Component: ethanol CAS No 64-17-5
Acute toxicity
Oral
LD50 : 10470 mg/kg (Rat, male and female) (Guideline test OECD 401).
Inhalation
LC50 : 51 mg/l (Rat; 4 h; vapours) (Guideline test OECD 403).
Skin
LD50 : > 2000 mg/kg (Rabbit) (Guideline test OECD 402).
Irritation
Skin
Result : No skin irritation (Rabbit) (Guideline test OECD 404).
Eyes
Result : Causes severe eye irritation. (Rabbit) (Guideline test OECD 405).
Sensitisation
Result : not hypersensitive (Guinea pig) (Maximalisation test)
non-sensitising (Mouse) (Guideline test OECD 429)
Not sensitising (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)(Guideline test OECD 451)
CMR properties
Carcinogenicity:
Animal tests have shown no carcinogenic effects.
Mutagenicity :
In vitro tests showed no mutagenic effects.
In vivo tests showed no mutagenic effects.
Teratogenicity :
It is not considered teratogenic.
Reproductive toxicity:
It is not considered toxic to reproduction.
Genotoxicity in vitro
Result : negative (Ames test; Salmonella typhimurium) (Guideline test OECD 471)
negative (Mouse lymphoma cells) (Guideline test OECD 476)
Positive as well as negative results were obtained.
(Back mutation test with bacteria; Escherichia coli) (No guideline followed).

Genotoxicity in vivo
Positive as well as negative results were obtained.
(Dominant lethal analysis; Mouse, male) (Oral; 5 days) (Guideline test OECD 478) .
negative (In vivo test for chromosomal aberrations; Hamster, male and female) (Oral;) (Guideline test OECD 475)
negative (In vivo micronucleus test; Mouse) (Guideline test OECD 475)
Teratogenicity
LOAEL Development : 8,200 mg/kg bw/day (Rat, Sprague-Dawley)(6 Weeks)(No guideline followed) Reduced skeletal bone formation.
NOAEL Development : 5,200 mg/kg bw/day (Rat, Sprague-Dawley)(6 Weeks)(No guideline followed)
NOAEL Maternal : >= 20,000 ppm
NOAEL Teratogenicity : 16,000 ppm (Rat, Sprague-Dawley)(Inhalation; 10,000, 16,000, 20,000 ppm; 7 hours/day)(Guideline test OECD 414) Reduced maternal food consumption.
Reproductive toxicity
NOAEL Parent : 21.5 mg/kg bw/day (Mouse, male and female)(Guideline test OECD 416) No adverse effects.
NOAEL F1 : 13.8 mg/kg bw/day (Mouse, male and female)(Guideline test OECD 416) Reduction in sperm motility.

Specific target organ toxicity

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

Other toxic properties

Repeated-dose toxicity
NOAEL : 1730 mg/kg bw/day (Rat, female)(Oral; 90 days) (Guideline test OECD 408), Target organs: Liver
NOAEL : > 20 mg/l (Rat, man)(Inhalation; 21 days) (Guideline test OECD 403)

Aspiration hazard

No classification for aspiration toxicity.

Further information

Other relevant toxicological information:
Exposure to ethanol vapours may cause eye and nose irritation, drowsiness and headache.
Other symptoms may include drowsiness, nausea, mental agitation or depression, vomiting, flushing and coma.
It can cause respiratory irritation, intraocular tension, ataxia, drowsiness, narcosis, impaired perception and incoordination.
It can also lead to lowered inhibitions, dizziness, shallow breathing, unconsciousness and death.
Chronic symptoms of ingestion and/or exposure to vapour may include weight loss, liver cirrhosis, gastroenteritis, anorexia, diarrhoea, polyneuritis with pain, motor and sensory loss in the limbs, optic atrophy and loss or impairment of other faculties, agitation acute and chronic gastritis, malabsorption syndrome, acute and chronic pancreatitis, anaemia due to acute or chronic blood myopathy, alcoholic cardiomyopathy, lactic acidosis, hypomagnesaemia, hypourmia, hyperlipidaemia, pulmonary aspiration and respiratory infections.
Chronic exposure can also lead to severe neurological and psychological disorders (e.g. brain damage, memory loss, sleep disorders and psychosis).
Other symptoms include mucosal irritation, central nervous system depression, dizziness, jaundice, upper abdominal pain on the right side and dizzy gait.
It can cause liver, kidney and heart damage.
Pupils are sometimes widely dilated and inactive to light.
The liquid can degrease the skin, producing a dermatitis characterised by drying and tearing.
It rarely causes temporary blindness. Intake of this compound can enhance the effects of coumarin, anticoagulants, antihistamines, hypnotics, sedatives, tranquillisers, insulin, monoamine oxidase inhibitors, and antidepressants.
May cause reproductive and teratogenic effects.
Experience of exposing people:

Repeated and sustained exposure to solvents can cause injury to brain and nervous system.
Component: propane-2-ol CAS No 67-63-0
Acute toxicity
Oral
LD50 : 5840 mg/kg (Rat) (Guideline test OECD 401)
Inhalation
LC50 : > 25 mg/l (Rat; 6 h; vapours) (Guideline test OECD 403)
Skin
LD50 : 13900 mg/kg (Rabbit) (Guideline test OECD 402)
Irritation
Skin
Result : No skin irritation (Guideline test OECD 404)
Degreases the skin, which can become dry and rough as a result.
Prolonged or repeated skin contact may lead to dermatitis.
Eyes
Result : Eye irritation (Guideline test OECD 405)
Splashes in the eyes can cause severe pain.
Vapour is irritating.
Sensitisation
Result : not sensitising (Buehler test; Skin; Guinea pig) (Guideline test OECD 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)(Guideline test OECD 451).
CMR properties
Carcinogenicity:
Based on available data; classification criteria not met.
Mutagenicity :
In vitro tests showed no mutagenic effects.
In vivo tests showed no mutagenic effects.
Teratogenicity :
No effects on or through lactation.
Reproductive toxicity:
Based on available data; classification criteria not met.
Genotoxicity in vitro
Result : negative (bacterial reverse mutation test; Salmonella typhimurium; with and without metabolic activation) (Guideline test OECD 471)
negative (In vitro gene mutation test in mammalian cells; CHO (Chinese hamster ovary) cells; with and without metabolic activation) (Guideline test OECD 476)
Genotoxicity in vivo Result : negative (In vivo micronucleus test; Mouse, male and female) (intraperitoneal;) (Guideline test OECD 474)
Teratogenicity
NOAEL Maternal : 400 mg/kg bw/day
NOAEL Development : 400 mg/kg bw/day (Rat, Sprague-Dawley)(Oral)(Guideline test OECD 414)No adverse reactions.
Reproductive toxicity
NOAEL Parent : 853 mg/kg bw/day (One-generation reproductive toxicity study; Rat, wistar, male and female)(Oral)(Guideline test OECD 415)No adverse effects.
NOAEL Parent : 500 mg/kg bw/day (Two-generation reproductive toxicity study; Rat, Sprague-Dawley, male and female)(Oral)(Guideline test OECD 416)No adverse effects.
Specific target organ toxicity
Single exposure

Inhalation : Target organs: Central nervous system.
May cause drowsiness or dizziness.
Repeated exposure
Comments : Repeated oral and inhalation exposure studies have shown effects in target organs in male rats (kidneys) and target organs in male and female mice (thyroid) through mechanisms of action not relevant to humans.
Other toxic properties
Aspiration hazard
Aspiration hazard if swallowed - may enter lungs and cause damage.
Aspiration can cause pulmonary oedema and pneumonia.
Based on available data; classification criteria not met...,
11.2 Additional information
Data for the product
Endocrine-disrupting properties
Assessment : The substance/mixture does not contain any components believed 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 level 0.1% or higher.
Component: propane-2-ol CAS No 67-63-0
Endocrine-disrupting properties
Assessment : No information available on endocrine disrupting properties for human health.

SECTION 12: Ecological information

12.1 Toxicity:
Data for the product
Acute toxicity
(Acute) Short-term aquatic hazard
Result : Based on available data; classification criteria not met.
Chronic toxicity
(Chronic) Aquatic long-term hazard
Result : Based on available data; classification criteria not met.
Component: ethanol CAS No 64-17-5
Acute toxicity
Fish
LC50 : 15,300 mg/l (Pimephales promelas (American fathead); 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) (Guideline test OECD 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 (large water flea); 48 h) (ASTM E 729-80)Freshwater
LC50 5,012 mg/l (Ceriodaphnia dubia (water flea); 48 h) (static test; ASTM E 729-80)Freshwater
Algae
EC50 : 275 mg/l (Chlorella vulgaris (freshwater algae); 72 h) (static test; Endpoint: Growth rate; OECD Test Guideline 201)Freshwater
EC10 11.5 mg/l (Chlorella vulgaris (freshwater 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; Endpoint: Reproduction; No guideline followed)

NOEC 79 mg/l (Palaemonetes pugio; 12 d) (static test)
Component: propane-2-ol CAS No 67-63-0
Acute toxicity
Fish
LC50 : 9,640 mg/l (Pimephales promelas, mortality; 96 h) (flow-through test; Guideline test OECD 203)
Toxicity to daphnia and other aquatic invertebrates
LC50 : 9,714 mg/l (Daphnia magna, mortality rate; 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 harmful action
12.2 Persistence and Degradability:
Data for the product
Persistence and degradability
Persistence
Result : The product is insoluble and floats on water.
The product evaporates easily from the water surface.
Component: ethanol CAS No 64-17-5
Persistence and degradability
Persistence
Result : (to related: Water) non-significant hydrolysis
Biodegradability
Result : 97 % (aerobic; activated sludge; to related: CO2 formation (% of theoretical value).; Exposure time: 28 d)(OECD test guideline 301 B)
Easily biodegradable.
Component: propane-2-ol CAS No 67-63-0
Persistence and degradability
Persistence
Result : Transformation due to hydrolysis expectation not significant.
Transformation due to photolysis expectation not significant.
Biodegradability
Result : 53 % (aerobic; Domestic sewage; to related: O2 consumption; Exposure time: 5 d)(Directive 67/548/EEC, Annex V, C.5.)
Easily biodegradable.
12.3 Bioaccumulation:
Component: ethanol CAS No 64-17-5
Bioaccumulation
Result :
log Pow -0.35 (24 °C; pH 7.4) (Guideline test OECD 107)
BCF: 0.66; Does not bioaccumulate.
Component: propane-2-ol CAS No 67-63-0
Bioaccumulation
Result :
log Pow 0,05 (25 °C)
Bioaccumulation is not expected.
12.4 Mobility in soil:
Component: ethanol CAS No 64-17-5
Mobility
Water : The product is water-soluble
Air : The product evaporates easily.
Soil : Is not expected to adsorb to soil.

Component: propane-2-ol CAS No 67-63-0
Mobility
Water : The product is water-soluble
Soil : Mobile in soil
12.5 Results of PBT and vPvB assessment
Data for the product
Results of PBT and vPvB assessment
Result : This substance/mixture does not contain any components that can be considered 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, bioaccumulative nor toxic (PBT).
This substance is considered neither very persistent nor very bioaccumulative (vPvB).
Component: propane-2-ol CAS No 67-63-0
Results of PBT and vPvB assessment
Result : This substance is not considered to be persistent, bioaccumulative nor toxic (PBT).
This substance is considered neither very persistent nor very bioaccumulative (vPvB).
12.6 Endocrine disrupting properties
Data for the product
Potential endocrine disruption:
The substance/mixture does not contain any components believed 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 level 0.1% or higher.
Component: propane-2-ol CAS No 67-63-0
Potential endocrine disruption:
No information available on endocrine disrupting properties for the environment.
12.7 Other adverse effects
Data for the product
Additional ecological information
Result : Do not drain into surface water or the sewerage system.
Avoid penetration into the soil.
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 drain into surface water or the sewerage system.
Avoid penetration into the soil.
Component: propane-2-ol CAS No 67-63-0
Additional ecological information
Result : Do not drain into surface water or the sewerage system.
Avoid penetration into the soil.

SECTION 13: Disposal instructions

13.1 Waste treatment methods:
Product:
Disposal together with normal waste is prohibited.
Special disposal is required according to local regulations.
Do not allow product to enter drains.
Contact waste management service.
Contaminated packaging:

Empty used containers thoroughly.
Packaging can be reused after thorough cleaning.
If reuse is not possible, dispose of according to local regulations.
Do not burn or handle the empty vessel with cutting torch.
Risk of explosion.
European waste list number (EWCN):
A waste code according to the European Waste Catalogue cannot be assigned for this product, as the intended use dictates the assignment.
The waste code is established in consultation with the regional waste disposal authority.

SECTION 14: Information relating to transport

14.1. UN or ID number
UN 1170
14.2. Proper cargo name according to UN model regulations

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

14.3. Transport hazard class(es)

ADR Class :	3
(Labels; Classification code; Hazard identification no.; 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 pollution according to **IMDG** code :	no

14.6. Special precautions for user
Expires.
14.7 Sea transport in bulk in accordance with IMO instruments
Not applicable for product, as delivered.

SECTION 15: Statutory information

15.1 Safety, health and environmental regulations and legislation specific to the substance or mixture:
Netherlands : ABM: B (5)
Component: ethanol CAS No 64-17-5
Regulation (EU) No 649/2012 on the export and import of dangerous chemicals:
Substance/mixture is not covered by this legislation.
EU. REACH, Annex XVII, Marketing and use restrictions (Regulation 1907/2006/EC) :
Item Neg.: , 3; Listed
Item Neg..: , 40; Listed
EU Regulation No 1451/2007 [biocidal products], Annex I, active substances identified as existing:
EC no: , 200-578-6; Listed
Directive 2012/18/EU (SEVESO III) Annex I :

Requirements for low threshold devices: 5,000 tonnes; Part 1: Categories of hazardous substances; P5c: Flammable liquids, Category 2 or 3 not covered by P5a and P5b, The information given is valid, if the product is stored below its boiling point and at a pressure of 1013 hPa.
Requirements for high threshold establishments: 50,000 tonnes; Part 1: Categories of hazardous substances; P5c: Flammable liquids, Category 2 or 3 not covered by P5a and P5b, The information given is valid, if the product is stored below its boiling point and at a pressure of 1013 hPa.
Netherlands. Substances toxic to reproduction :
Hazard class: ; May be harmful through breastfeeding.
Netherlands. Carcinogenic substances and processes :
Hazard class: ; Carcinogenic
Netherlands. Substances toxic to reproduction :
Hazard class: 1A; May cause harm to the unborn child.
Netherlands. Substances toxic to reproduction :
Hazard class: 1A; May impair fertility.
Component: propane-2-ol CAS No 67-63-0
Regulation (EU) No 649/2012 on the export and import of dangerous chemicals:
Substance/mixture is not covered by this legislation.
EU. REACH, Annex XVII, Marketing and use restrictions (Regulation 1907/2006/EC) :
Item Neg.: , 3; Listed
Item Neg: , 40; Listed
EU Regulation No 1451/2007 [biocidal products], Annex I, active substances identified as existing :
EC no: , 200-661-7; Listed
Directive 2012/18/EU (SEVESO III) Annex I:
Requirements for low threshold devices: 5,000 tonnes; Part 1: Categories of hazardous substances; P5c: Flammable liquids, Category 2 or 3 not covered by P5a and P5b, The information given is valid, if the product is stored below its boiling point and at a pressure of 1013 hPa.
Requirements for high threshold establishments: 50,000 tonnes; Part 1: Categories of hazardous substances; P5c: Flammable liquids, Category 2 or 3 not covered by P5a and P5b, The information given is valid, if the product is stored below its boiling point and at a pressure of 1013 hPa.
15.2 Chemical safety assessment:
The chemical safety assessment of substances in this mixture has been carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)
Aligning with regulation: Regulation (EC) No 1907/2006 (REACH), amended by 2020/878/EU.

List of relevant sentences (code and full text as mentioned in sections 2 and 3)
H225 Highly flammable liquid and vapour.
H319 Causes severe eye irritation.
H336 May cause drowsiness or dizziness.

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 reprotoxic
COD:	chemical oxygen demand
DNE:L	Derived dose without effect
DSL:	Canada. Environmental Protection Act, Domestic Substances List
EINECS:	European Inventory of Existing Commercial Chemical Substances

ELINCS:	European list of notified substances
ENCS (JP):	Japan. Kashin-Hou Law List
GHS:	Globally harmonised classification and labelling system for 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:	lethal concentration 50%
LOAEC:	lowest concentration at which an adverse effect was observed
LOAEL:	lowest dose or concentration at which an adverse effect was observed
LOEL:	lowest dose or concentration at which an effect was observed
NDSL:	Canada. Environmental Protection Act. Non-Domestic Substances List.
NLP:	no longer polymer
NOAEC:	concentration at which no adverse effect was observed
NOAEL:	dose or concentration at which no adverse effect was observed
NOEC:	concentration with no observed effects
NOEL:	dose or concentration at which no effect was observed
NZIOC:	New Zealand. Inventory of Chemicals
OECD:	Organisation for Economic Co-operation and Development
OEL:	occupational exposure limit value
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 aut. no.:	REACH authorisation number
REACH council pl. No:.	REACH consultation number of application for authorisation
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 and biological materials
UN INVL:	Vietnam. National Chemical Inventory
vPvB:	very persistent and very bioaccumulative

Further information
Key literature references and data sources:
Supplier information and data from the "Database of Registered Substances" of the European Chemicals Agency (ECHA) were used to produce this safety data sheet.

Methods used for pr:
The classification for human health, physical and chemical risks and environmental hazards were derived from a combination of calculation methods and, where available, test data.

Hints for training :
Workers should be regularly trained on the safe handling of the products based on the information provided in the safety data sheet and the local conditions of the workplace information.
National requirements for training of workers in the handling of hazardous substances must be complied with.

Other information :

The information provided here is correct and complete to the best of our knowledge at the date of issue of this safety data sheet. The information relates only to the named product and does not guarantee the quality and completeness of the product's properties, or in case the product is used together with other products or in any other process.