Safety Data Sheet

according to UK REACH Regulation

GYEON Q2 AntiFog

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

1.1. Product identifier

GYEON Q2 AntiFog

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

Use of the substance/mixture

Vehicle protective product - coating designed for glass.
Enthusiasts and professional use (End consumer)

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name:	Gyeon Technology
Street:	1405-538, 212, Gasan digital 1-ro
Place:	Geumcheon-gu, Seoul, Korea
Telephone:	+82-10-4339-3599
Contact person:	Robert Gyeon
e-mail:	sales@gyeon.co

Supplier

Company name:	Gyeon UK Ltd
Street:	Commercial Quay, 84 Commercial Stree
Place:	GB-EH6 6LX Edinburgh
e-mail:	hello@gyeonquartz.uk
Contact person:	Richard Cooper Telephone: +44 (0)7984 056790

1.4. Emergency telephone number:

National Poisons Information Service - 03448920111. 'For healthcare professionals only'.

Further Information

Safety Data Sheet according to UK-REACH Regulation

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Flam. Liq. 3; H226

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Signal word: Warning

Pictograms:



Hazard statements

H226 Flammable liquid and vapour.

Precautionary statements

P102 Keep out of reach of children.
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.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Special labelling of certain mixtures

EUH208 Contains (R)-p-mentha-1,8-diene; d-limonene (LIMONENE), linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool (LINALOOL), citral. May produce an allergic reaction.

2.3. Other hazards

The substances in the mixture (> 0.1%) do not meet the PBT/vPvB criteria according to UK REACH.
This product does not contain a substance (> 0,1%) that has endocrine disrupting properties with respect to humans as no components meets the criteria. This product does not contain a substance (> 0,1 %) that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.
In use, may form flammable/explosive vapour-air mixture.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
64-17-5	Ethanol, ethyl alcohol			20 - < 25 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
111-76-2	2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve			1 - < 3 %
	203-905-0	603-014-00-0		
	Acute Tox. 3, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2; H331 H302 H315 H319			
5989-27-5	(R)-p-mentha-1,8-diene; d-limonene (LIMONENE)			0.3 - < 0.5 %
	227-813-5	601-096-00-2		
	Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1B, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 3; H226 H315 H317 H304 H400 H412			
78-70-6	linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool (LINALOOL)			0.3 - < 0.5 %
	201-134-4	603-235-00-2		
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1B; H315 H319 H317			
5392-40-5	citral			0.1 - < 0.2 %
	226-394-6	605-019-00-3		
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1; H315 H319 H317			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
64-17-5	200-578-6	Ethanol, ethyl alcohol	20 - < 25 %
	inhalation: LC50 = 124,7 mg/l (vapours); oral: LD50 = >5000 mg/kg Eye Irrit. 2; H319: >= 50 - 100		
111-76-2	203-905-0	2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve	1 - < 3 %
	inhalation: ATE 3 mg/l (vapours); dermal: LD50 = 841 - >2000 mg/kg; oral: ATE 1200 mg/kg		
5989-27-5	227-813-5	(R)-p-mentha-1,8-diene; d-limonene (LIMONENE)	0.3 - < 0.5 %

	dermal: LD50 = > 5000 mg/kg; oral: LD50 = > 2000 mg/kg Aquatic Acute 1; H400: M=1		
78-70-6	201-134-4	linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool (LINALOOL)	0.3 - < 0.5 %
	dermal: LD50 = >5000 mg/kg; oral: LD50 = 2200 mg/kg		
5392-40-5	226-394-6	citral	0.1 - < 0.2 %
	dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg		

Further Information

Product does not contain listed SVHC substances > 0.1 % according to UK REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Take off immediately all contaminated clothing.

After inhalation

Remove person to fresh air and keep comfortable for breathing. In case of respiratory tract irritation, consult a physician.

After contact with skin

Take off immediately all contaminated clothing. Wash with plenty of water. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. Never give anything by mouth to an unconscious person or a person with cramps. In all cases of doubt, or when symptoms persist, seek medical advice.

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

No information available.

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

Carbon dioxide (CO2). Dry extinguishing powder. Alcohol resistant foam.
In case of major fire and large quantities: Atomized water.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Gas/vapours, irritant. Carbon monoxide (CO). Carbon dioxide (CO2).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Use water spray jet to protect personnel and to cool endangered containers.
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Remove all sources of ignition. Ventilate affected area.
Do not breathe gas/vapour/aerosol. Avoid contact with skin, eyes and clothes.

For non-emergency personnel

Wear personal protection equipment (refer to section 8).

For emergency responders

No special measures are necessary.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Cover drains. Prevent spread over a wide area (e.g. by containment or oil barriers). 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 containment

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

Clean contaminated objects and areas thoroughly observing environmental regulations.

Other information

Ventilate affected area.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Provide adequate ventilation as well as local exhaustion at critical locations.
Wear suitable protective clothing. (See section 8.)

Advice on protection against fire and explosion

Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges.
Flammable vapours can accumulate in head space of closed systems. In use, may form flammable/explosive vapour-air mixture. Heating causes rise in pressure with risk of bursting.

Advice on general occupational hygiene

The usual precautions for handling chemicals should be considered.
Keep away from food, drink and animal feedingstuffs.
Always close containers tightly after the removal of product. Do not eat, drink, smoke or sneeze at the workplace. Wash hands before breaks and after work. Protect skin by using skin protective cream. Take off contaminated clothing.

Further information on handling

General protection and hygiene measures: See section 8.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Protect against direct sunlight.
Ensure adequate ventilation of the storage area.
Make sure spills can be contained (e.g. sump pallets or kerbed areas).

Hints on joint storage

Do not store together with: Gas. Explosives. Flammable solids. Pyrophoric liquids and solids. Self-heating substances and mixtures. Substances and mixtures which, in contact with water, emit flammable gases. Oxidizing liquids. Oxidizing solids. ammonium nitrate. Self-reactive substances and mixtures. Organic

peroxides. Non-combustible toxic substances. Radioactive substances. Infectious substances.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorbtion of humidity.
Protect against: UV-radiation/sunlight. heat. Humidity frost.
storage temperature: 15 - 25 °C

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
111-76-2	2-Butoxyethanol	25	123		TWA (8 h)	WEL
		50	246		STEL (15 min)	WEL
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
111-76-2	2-Butoxyethanol	butoxyacetic acid (creatinine)	240 mmol/mol	urine	Post shift

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
64-17-5	Ethanol, ethyl alcohol			
Worker DNEL, acute		inhalation	local	1900 mg/m³
Worker DNEL, long-term		dermal	systemic	343 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	950 mg/m³
Consumer DNEL, acute		inhalation	local	950 mg/m³
Consumer DNEL, long-term		dermal	systemic	206 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	114 mg/m³
Consumer DNEL, long-term		oral	systemic	87 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
64-17-5	Ethanol, ethyl alcohol	
Freshwater		0,96 mg/l
Freshwater (intermittent releases)		2,75 mg/l
Marine water		0,79 mg/l
Marine water (intermittent releases)		2,75 mg/l
Freshwater sediment		3,6 mg/kg
Marine sediment		2,9 mg/kg
Secondary poisoning		0,72 mg/kg
Micro-organisms in sewage treatment plants (STP)		580 mg/l

Soil	0,63 mg/kg

8.2. Exposure controls





Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide adequate ventilation as well as local exhaustion at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). BS/EN 166

Hand protection

In case of prolonged or frequently repeated skin contact: Wear suitable gloves. (BS EN 374)
Suitable material: Butyl rubber.
Thickness of glove material: 0,5 mm
Breakthrough time >= 480 min. Penetration time (maximum wearing period): ~ 120 min. (estimated)
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
The selected protective gloves have to satisfy the specifications of the Personal Protective Equipment at Work (Amendment) Regulations 2022 and the standard EN ISO 374.
Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Wear suitable protective clothing.
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.
Respiratory protection necessary at:
Generation/formation of aerosols
Exceeding exposure limit values
Insufficient ventilation
Suitable respiratory protective equipment: Combination filtering device (EN 14387) Type: A/P1-3
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	Squash
Odour threshold:	not determined

	Test method
Melting point/freezing point:	not determined

Boiling point or initial boiling point and boiling range:	90 °C	
Flammability:	not determined	
Lower explosion limits:	not determined	
Upper explosion limits:	not determined	
Flash point:	24 °C	ISO 3679
Auto-ignition temperature:	not determined	
Decomposition temperature:	not determined	
pH-Value:	7	
Viscosity / kinematic:	not determined	
Water solubility:	miscible	
Solubility in other solvents		
not determined		
Dissolution rate:	not relevant	
Partition coefficient n-octanol/water:	SECTION 12: Ecological information	
Dispersion stability:	not relevant	
Vapour pressure:	not determined	
Density:	1,0 g/cm³	
Bulk density:	not determined	
Relative vapour density:	not determined	
Particle characteristics:	not relevant	

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

In use, may form flammable/explosive vapour-air mixture.

Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	not relevant
Gas:	not relevant

Oxidizing properties

none.

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined
Solid content:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Viscosity / dynamic:	not determined
Flow time:	not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The mixture is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.
Refer to chapter 10.5.

10.4. Conditions to avoid

Protect against: UV-radiation/sunlight. heat. Moisture.
In use may form flammable/explosive vapour-air mixture.
Heating causes rise in pressure with risk of bursting.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong. Strong acid. strong alkalis.

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicocinetics, metabolism and distribution

No data available.

Acute toxicity

Based on available data, the classification criteria are not met.
The product has not been tested.

ATEmix calculated

ATE (oral) 120000,0 mg/kg; ATE (inhalation vapour) 300,00 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	Ethanol, ethyl alcohol				
	oral	LD50 >5000 mg/kg	Rat	ECHA dossier	
	inhalation (4 h) vapour	LC50 124,7 mg/l	Rat	ECHA dossier	
111-76-2	2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve				
	oral	ATE 1200 mg/kg			
	dermal	LD50 841 - >2000 mg/kg	Rabbit	ECHA Dossier	
	inhalation vapour	ATE 3 mg/l			
5989-27-5	(R)-p-mentha-1,8-diene; d-limonene (LIMONENE)				
	oral	LD50 > 2000 mg/kg	Rat	ECHA dossier	OECD Guideline 423
	dermal	LD50 > 5000 mg/kg		ECHA dossier	
78-70-6	linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool (LINALOOL)				
	oral	LD50 2200 mg/kg	Mouse.	ECHA Dossier	
	dermal	LD50 >5000 mg/kg	Rabbit	ECHA Dossier	
5392-40-5	citral				
	oral	LD50 >5000 mg/kg	Rat.	ECHA Dossier	
	dermal	LD50 >2000 mg/kg	Rat.	ECHA Dossier	

Irritation and corrosivity

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

Sensitising effects

Contains (R)-p-mentha-1,8-diene; d-limonene (LIMONENE), linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool (LINALOOL), citral. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.
Ethanol:
In-vitro mutagenicity: No experimental indications of mutagenicity in-vitro exist. Reproductive toxicity: Exposure time: 18 weeks Species: CD-1 Mouse. Method: OECD Guideline 416
Result: NOAEL = 20700 mg/kg/day Developmental toxicity/teratogenicity: Exposure time: 19d Species: Sprague-Dawley Rat. Method: OECD Guideline 414 Result: NOAEL = 16000 ppm (maternal toxicity) Result: NOAEL >= 20000 ppm (teratogenicity) Literature information: ECHA dossier

2-butoxyethanol; ethylene glycol monobutyl ether:
In-vitro mutagenicity:
Method: OECD Guideline 476 (In Vitro Mammalian Cell Gene Mutation Test)
Result: negative.
Literature information: ECHA dossier
Carcinogenicity:
Method: OECD Guideline 451 (Carcinogenicity Studies)
Species: Mouse.
Exposure duration: 2 years
Result: NOAEC = 125 ppm
Literature information: ECHA dossier
Reproductive toxicity:
Method: other guideline: National Toxicology Programme Continuous Breeding Protocol
Species: Mouse.
Exposure duration: 90 d.
Results: NOAEL = 720 mg/kg
Literature information: ECHA dossier
Developmental toxicity/teratogenicity:
Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study)
Species: Rabbit.
Exposure duration: 13 d.
Results: NOAEL = 100 ppm.
Literature information: ECHA dossier

STOT-single exposure

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

STOT-repeated exposure

Based on available data, the classification criteria are not met.
Ethanol:
Subchronic oral toxicity:
Exposure time: 90d; Species: Sprague-Dawley Rat.
Method: OECD Guideline 408; Result: NOAEL = 1280 mg/kg; Literature information: ECHA dossier

2-butoxyethanol; ethylene glycol monobutyl ether:
Subchronic oral toxicity:
Method: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Species: Rat
Exposure duration: 90 d.
Result: NOAEL =< 69 mg/kg
Literature information: ECHA dossier
Subchronic dermal toxicity:
Method: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
Species: Rabbit (male/female).

Exposure duration: 90 d.
Result: NOAEL => 150 mg/kg
Literature information: ECHA dossier

Aspiration hazard

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

Specific effects in experiment on an animal

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance (> 0,1%) that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Further information

Solvent:
Symptoms: Depression of the central nervous system. Liver and kidney damage. drowsiness. vomiting. Nausea. Dizziness. unconsciousness. Impaired consciousness. Intoxication. erythema (redness)

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
64-17-5	Ethanol, ethyl alcohol						
	Acute fish toxicity	LC50	14200 mg/l	96 h	Pimephales promelas	ECHA dossier	
	Acute algae toxicity	ErC50	275 mg/l	72 h	Chlorella vulgaris	ECHA dossier	
	Acute crustacea toxicity	EC50	5012 mg/l	48 h	Ceriodaphnia dubia	ECHA dossier	
	Crustacea toxicity	NOEC	9,6 mg/l	9 d	Daphnia magna	ECHA dossier	
111-76-2	2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve						
	Acute fish toxicity	LC50	1474 mg/l	96 h	Oncorhynchus mykiss	ECHA Dossier	
	Acute crustacea toxicity	EC50	1800 mg/l	48 h	Daphnia magna	ECHA Dossier	
5989-27-5	(R)-p-mentha-1,8-diene; d-limonene (LIMONENE)						
	Acute fish toxicity	LC50	0,72 mg/l	96 h	Pimephales promelas	ECHA dossier	OECD Guideline 203
	Acute algae toxicity	ErC50	0,32 mg/l	72 h	Pseudokirchneriella subcapitata	ECHA dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50	0,307 mg/l	48 h	Daphnia magna	ECHA dossier	OECD Guideline 202
	Acute bacteria toxicity	(EC50	209 mg/l)	3 h		ECHA dossier	
78-70-6	linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool (LINALOOL)						
	Acute fish toxicity	LC50	27,8 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	ECHA Dossier	
	Acute algae toxicity	ErC50	88,3 mg/l	96 h	Desmodesmus subspicatus	ECHA Dossier	
	Acute crustacea toxicity	EC50	59 mg/l	48 h	Daphnia magna	ECHA Dossier	
5392-40-5	citral						
	Acute fish toxicity	LC50	6,78 mg/l	96 h	Leuciscus idus	ECHA Dossier	

	Acute algae toxicity	ErC50 mg/l	103,8	72 h	Desmodesmus subspicatus	ECHA Dossier	
	Acute crustacea toxicity	EC50	6,8 mg/l	48 h	Daphnia magna	ECHA Dossier	
	Acute bacteria toxicity	(EC50 mg/l)	160	0,5 h	Activated sludge	ECHA Dossier	

12.2. Persistence and degradability

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
64-17-5	Ethanol, ethyl alcohol			
	other guideline: -	84%	20	ECHA dossier
	Biodegradable.			
5989-27-5	(R)-p-mentha-1,8-diene; d-limonene (LIMONENE)			
	OECD 301D / EEC 92/69 annex V, C.4-E	80 %	28	ECHA dossier
	Easily biodegradable (concerning to the criteria of the OECD)			
78-70-6	linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool (LINALOOL)			
	OECD 301D / EEC 92/69 annex V, C.4-E	64,2%	28	ECHA Dossier
	Easily biodegradable (concerning to the criteria of the OECD)			
5392-40-5	citral			
	EU Method C.4-D	90%	28	ECHA Dossier
	Easily biodegradable (concerning to the criteria of the OECD)			

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
64-17-5	Ethanol, ethyl alcohol	-0,35
111-76-2	2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve	0,81 (25°C)
5989-27-5	(R)-p-mentha-1,8-diene; d-limonene (LIMONENE)	4,38
78-70-6	linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool (LINALOOL)	2,84
5392-40-5	citral	2,76

BCF

CAS No	Chemical name	BCF	Species	Source
5989-27-5	(R)-p-mentha-1,8-diene; d-limonene (LIMONENE)	864,8	no data	ECHA dossier

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.
The aforementioned statement applies to substances contained in the product with a minimum content of 0.1 %.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.
The aforementioned statement applies to substances contained in the product with a minimum content of 0.1 %.

12.7. Other adverse effects

No data available.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing hazardous substances; hazardous waste

List of Wastes Code - used product

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1170
14.2. UN proper shipping name:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3



Classification code:	F1
Special Provisions:	144 601
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	33
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1170
14.2. UN proper shipping name:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3



Classification code:	F1

Special Provisions: 144 601
Limited quantity: 1 L
Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number or ID number: UN 1170
14.2. UN proper shipping name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



Marine pollutant: NO
Special Provisions: 144
Limited quantity: 1 L
Excepted quantity: E2
EmS: F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1170
14.2. UN proper shipping name: ETHANOL SOLUTION
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



Special Provisions: A3 A58 A180
Limited quantity Passenger: 1 L
Passenger LQ: Y341
Excepted quantity: E2
IATA-packing instructions - Passenger: 353
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

See section 8.

14.7. Maritime transport in bulk according to IMO instruments

not relevant.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):
Entry 3, Entry 40, Entry 75

2010/75/EU (VOC): not determined
2004/42/EC (VOC): not determined
Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

Additional information

Safety Data Sheet according to UK-REACH Regulation
The mixture is classified as hazardous according to GHS (GB CLP).
UK REACH Appendix XVII, No (mixture): 3, 40

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	2 - obviously hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
Ethanol, ethyl alcohol

SECTION 16: Other information

Changes

Rev. 1,0; 07.07.2015, Initial release
Rev. 1.1; 01.09.2016, Changes in chapter: 1, 16.
Rev. 1.2: 02.10.2019, Changes in chapter: 2,9,10,15,16
Rev. 2.0; 13.05.2020, Revision Changes in chapter: 2-16
Rev. 2.1; 09.02.2021, Revision
Rev. 3.0; 20.05.2021, Revision Changes in chapter: 1-16
Rev. 3.1; 01.09.2021, Revision 2,3,15,16
Rev. 4.0; 03.01.2023, Revision Changes in chapter: 1-16

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS: Chemical Abstracts Service
CLP: Classification, Labelling and Packaging of substances and mixtures
DNEL: Derived No Effect Level
d: day(s)
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European LIst of Notified Chemical Substances
ECHA: European Chemicals Agency
EWC: European Waste Catalogue
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
h: hour
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect concentration
NLP: No-Longer Polymers
N/A: not applicable
OECD: Organisation for Economic Co-operation and Development
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
REACH: Registration, Evaluation, Authorisation of Chemicals
SVHC: substance of very high concern
TRGS: Technische Regeln für Gefahrstoffe
UN: United Nations
VOC: Volatile Organic Compounds

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Flam. Liq. 3; H226	On basis of test data

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains (R)-p-mentha-1,8-diene; d-limonene (LIMONENE), linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool (LINALOOL), citral. May produce an allergic reaction.

Further Information

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.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)