



# Smoke-Type WS-E Flavouring ET.19509

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
Issue date: 21/06/2024 Revision date: 21/06/2024 Supersedes version of: 21/06/2024 Version: 1.1

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

#### 1.1. Product identifier

Product form : Mixture  
Trade name : Smoke-Type WS-E Flavouring ET.19509  
Product code : ET.19509

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Food and/or beverage Flavouring

##### 1.2.2. Uses advised against

Restrictions on use : Not for direct consumption

#### 1.3. Details of the supplier of the safety data sheet

##### Manufacturer

H E Stringer Flavours Ltd  
Icknield Way Industrial Estate  
HP23 4JZ Tring Hertfordshire  
United Kingdom  
T +44 (0)1442 822621 option 1  
[technical@stringer-flavour.com](mailto:technical@stringer-flavour.com), [www.stringer-flavour.com](http://www.stringer-flavour.com)

#### 1.4. Emergency telephone number

Emergency number : +44 (0)1442 822621

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2 H225  
Full text of H- and EUH-statements: see section 16

##### Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

Signal word (CLP) : Danger  
Hazard statements (CLP) : H225 - Highly flammable liquid and vapour.  
Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.  
No smoking.  
P233 - Keep container tightly closed.  
P280 - Wear protective clothing, eye protection, face protection.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.  
Rinse skin with water or shower.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P501 - Dispose of contents and container to a licensed hazardous-waste disposal

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contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

### 2.3. Other hazards

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

Component	
Ethanol (64-17-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Acetic Acid (64-19-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acetic Acid substance with a Community workplace exposure limit	CAS-No.: 64-19-7 EC-No.: 200-580-7 EC Index-No.: 607-002-00-6	1 – 5	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:vapour), H332 Skin Corr. 1A, H314
Propanoic Acid substance with a Community workplace exposure limit	CAS-No.: 79-09-4 EC-No.: 201-176-3 EC Index-No.: 607-089-00-0	1 – 5	Flam. Liq. 3, H226 Skin Corr. 1B, H314
Furfural	CAS-No.: 98-01-1 EC-No.: 202-627-7 EC Index-No.: 605-010-00-4	< 1	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 2 (Inhalation:vapour), H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335
o-Cresol	CAS-No.: 95-48-7 EC-No.: 202-423-8 EC Index-No.: 604-004-00-9	< 1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314

### Specific concentration limits:

Name	Product identifier	Specific concentration limits
Acetic Acid	CAS-No.: 64-19-7 EC-No.: 200-580-7 EC Index-No.: 607-002-00-6	(10 $\leq$ C < 25) Skin Irrit. 2, H315 (10 $\leq$ C < 25) Eye Irrit. 2, H319 (25 $\leq$ C < 90) Skin Corr. 1B, H314 (90 $\leq$ C < 100) Skin Corr. 1A, H314

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Specific concentration limits:		
Name	Product identifier	Specific concentration limits
Propanoic Acid	CAS-No.: 79-09-4 EC-No.: 201-176-3 EC Index-No.: 607-089-00-0	(10 ≤ C < 25) Skin Irrit. 2, H315 (10 ≤ C < 25) Eye Irrit. 2, H319 (10 ≤ C < 100) STOT SE 3, H335 (25 ≤ C < 100) Skin Corr. 1B, H314

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation	: Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: None under normal conditions.
Symptoms/effects after ingestion	: None under normal conditions.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Highly flammable liquid and vapour.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

### 5.3. Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.
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#### 6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
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Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking.

### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

## 6.2. Environmental precautions

Avoid release to the environment.

## 6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

## 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in cool, dry conditions in the original unopened containers, between 5-20°C. Reseal container tightly once opened.

Packaging materials : Store always product in container of same material as original container.

### 7.3. Specific end use(s)

For food and beverages applications; not for direct human consumption.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

Ethanol (64-17-5)	
Belgium - Occupational Exposure Limits	
OEL TWA	1907 mg/m <sup>3</sup>
	1000 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	1900 mg/m <sup>3</sup>
	1000 ppm

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Ethanol (64-17-5)	
VLE (OEL C/STEL)	9500 mg/m <sup>3</sup>
	5000 ppm
<b>Netherlands - Occupational Exposure Limits</b>	
TGG-8u (OEL TWA)	260 mg/m <sup>3</sup>
	136 ppm
TGG-15min (OEL STEL)	1900 mg/m <sup>3</sup>
	992 ppm
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Ethanol
WEL TWA (OEL TWA)	1920 mg/m <sup>3</sup>
	1000 ppm
Regulatory reference	EH40/2005 (Third edition, 2018). HSE
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL STEL	1000 ppm
Acetic Acid (64-19-7)	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
IOEL TWA	25 mg/m <sup>3</sup>
	10 ppm
IOEL STEL	50 mg/m <sup>3</sup>
	20 ppm
<b>Belgium - Occupational Exposure Limits</b>	
OEL TWA	25 mg/m <sup>3</sup>
	10 ppm
OEL STEL	38 mg/m <sup>3</sup>
	15 ppm
<b>France - Occupational Exposure Limits</b>	
VME (OEL TWA)	25 mg/m <sup>3</sup>
	10 ppm
VLE (OEL C/STEL)	50 mg/m <sup>3</sup>
	20 ppm
<b>Netherlands - Occupational Exposure Limits</b>	
TGG-8u (OEL TWA)	25 mg/m <sup>3</sup>
	10 ppm
TGG-15min (OEL STEL)	50 mg/m <sup>3</sup>
	20 ppm
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Acetic acid
WEL TWA (OEL TWA)	25 mg/m <sup>3</sup>

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Acetic Acid (64-19-7)	
	10 ppm
WEL STEL (OEL STEL)	50 mg/m <sup>3</sup>
	20 ppm
Regulatory reference	EH40/2005 (Third edition, 2018). HSE
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	10 ppm
ACGIH OEL STEL	15 ppm
Propanoic Acid (79-09-4)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	31 mg/m <sup>3</sup>
	10 ppm
IOEL STEL	62 mg/m <sup>3</sup>
	20 ppm
Belgium - Occupational Exposure Limits	
OEL TWA	31 mg/m <sup>3</sup>
	10 ppm
OEL STEL	62 mg/m <sup>3</sup>
	20 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	31 mg/m <sup>3</sup>
	10 ppm
VLE (OEL C/STEL)	62 mg/m <sup>3</sup>
	20 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	31 mg/m <sup>3</sup>
	10 ppm
TGG-15min (OEL STEL)	62 mg/m <sup>3</sup>
	20 ppm
United Kingdom - Occupational Exposure Limits	
Local name	Propionic acid
WEL TWA (OEL TWA)	31 mg/m <sup>3</sup>
	10 ppm
WEL STEL (OEL STEL)	46 mg/m <sup>3</sup>
	15 ppm
Regulatory reference	EH40/2005 (Third edition, 2018). HSE
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	10 ppm

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Furfural (98-01-1)	
United Kingdom - Occupational Exposure Limits	
Local name	2-Furaldehyde (furfural)
WEL TWA (OEL TWA)	8 mg/m <sup>3</sup>
	2 ppm
WEL STEL (OEL STEL)	20 mg/m <sup>3</sup>
	5 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Third edition, 2018). HSE

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

No additional information available

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Wear recommended personal protective equipment.

#### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

Safety goggles

Eye protection			
Type	Field of application	Characteristics	Standard
Safety goggles	Droplet, Dust	clear, Plastic	EN 166 1B3

#### 8.2.2.2. Skin protection

Skin and body protection	
Type	Standard
Lab coat	ASTM F903

#### Hand protection:

Protective gloves against chemicals (EN 374)

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Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	5 (> 240 minutes)	0.20-0.30	2 (< 1.5)	EN 420, EN 16523-1, EN ISO 374-1, EN 374-2, EN 374-4, EN ISO 374-5

### 8.2.2.3. Respiratory protection

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Respiratory protection			
Device	Filter type	Condition	Standard
Powered Air-Purifying Respirator (PAPR)	Filter AX (brown), Filter P (white), Type A - High-boiling (>65 °C) organic compounds	Protection for Liquid particles, Protection for Solid particles, Short term exposure	EN 12941

### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Brown.
Appearance	: Mobile liquid.
Odour	: Characteristic. Conforms to Standard.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: > 35 °C
Flammability	: Highly flammable liquid and vapour.
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: < 14 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Solubility	: Soluble in water. Soluble in ethanol.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 0.8 – 0.82 g/ml
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable



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### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

Refractive index : 1.36 – 1.38  
Other properties : 100% Passes through 560 micron filter

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Highly flammable liquid and vapour.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

Ethanol (64-17-5)	
LD50 oral rat	10740 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit, Literature study, Dermal)
LC50 Inhalation - Rat	117 – 125 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation)
ATE CLP (oral)	10740 mg/kg bodyweight
Acetic Acid (64-19-7)	
LD50 oral rat	3310 mg/kg bodyweight (Rat, Male / female, Experimental value, Oral, 6 day(s))
LD50 oral	3540 mg/kg bodyweight
LD50 dermal	1100 mg/kg bodyweight
LC50 Inhalation - Rat	11.4 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Female, Experimental value, Inhalation (vapours), 14 day(s))
ATE CLP (oral)	3310 mg/kg bodyweight

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<b>Acetic Acid (64-19-7)</b>	
ATE CLP (dermal)	1100 mg/kg bodyweight
ATE CLP (vapours)	11.4 mg/l/4h
ATE CLP (dust,mist)	11.4 mg/l/4h
<b>Propanoic Acid (79-09-4)</b>	
LD50 oral rat	> 2000 mg/kg (Rat, Oral)
LD50 oral	3455 mg/kg bodyweight
LD50 dermal rat	3235 mg/kg bodyweight (24 h, Rat, Female, Dermal)
LD50 dermal	3235 mg/kg bodyweight
ATE CLP (oral)	3455 mg/kg bodyweight
ATE CLP (dermal)	3235 mg/kg bodyweight
<b>o-Cresol (95-48-7)</b>	
LD50 oral	121 mg/kg bodyweight
LD50 dermal	690 mg/kg bodyweight
ATE CLP (oral)	121 mg/kg bodyweight
ATE CLP (dermal)	690 mg/kg bodyweight
<b>Furfural (98-01-1)</b>	
LD50 oral	100 mg/kg bodyweight
LD50 dermal	1100 mg/kg bodyweight
LC50 Inhalation - Rat (Vapours)	1 mg/l/4h
ATE CLP (oral)	100 mg/kg bodyweight
ATE CLP (dermal)	1100 mg/kg bodyweight
ATE CLP (vapours)	1 mg/l/4h
Skin corrosion/irritation	: Not classified
<b>Ethanol (64-17-5)</b>	
pH	7 (789 g/l, 20 °C)
<b>Acetic Acid (64-19-7)</b>	
pH	2.4 (0.1 mol/l)
<b>Propanoic Acid (79-09-4)</b>	
pH	2.5 (10 %)
Serious eye damage/irritation	: Not classified
<b>Ethanol (64-17-5)</b>	
pH	7 (789 g/l, 20 °C)
<b>Acetic Acid (64-19-7)</b>	
pH	2.4 (0.1 mol/l)
<b>Propanoic Acid (79-09-4)</b>	
pH	2.5 (10 %)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified

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Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified

<b>Furfural (98-01-1)</b>	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

<b>Ethanol (64-17-5)</b>	
Viscosity, kinematic	1.082 mm <sup>2</sup> /s (40 °C)

<b>Acetic Acid (64-19-7)</b>	
Viscosity, kinematic	1.17 mm <sup>2</sup> /s (20 °C)

<b>Propanoic Acid (79-09-4)</b>	
Viscosity, kinematic	1.109 mm <sup>2</sup> /s

### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

No additional information available

#### 11.2.2. Other information

Other information : H.E. Stringer Flavours do not test on animals, this is historical information

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

<b>Ethanol (64-17-5)</b>	
LC50 - Fish [1]	14200 mg/l (US EPA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
EC50 72h - Algae [1]	275 mg/l (Equivalent or similar to OECD 201, Chlorella vulgaris, Static system, Fresh water, Experimental value, Growth rate)

<b>Acetic Acid (64-19-7)</b>	
LC50 - Fish [1]	> 1000 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	> 1000 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
EC50 72h - Algae [1]	> 1000 mg/l (ISO 10253, Skeletonema costatum, Static system, Salt water, Experimental value, Growth rate)

<b>Propanoic Acid (79-09-4)</b>	
LC50 - Fish [1]	> 10000 mg/l (96 h, Leuciscus idus, Fresh water)
EC50 72h - Algae [1]	45.8 mg/l (Scenedesmus subspicatus)

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### 12.2. Persistence and degradability

#### Ethanol (64-17-5)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.8 – 0.967 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.7 g O <sub>2</sub> /g substance
ThOD	2.1 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.43

#### Acetic Acid (64-19-7)

Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.6 – 0.74 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.03 g O <sub>2</sub> /g substance
ThOD	1.07 g O <sub>2</sub> /g substance

#### Propanoic Acid (79-09-4)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water. Readily biodegradable in water in anaerobic conditions.
Biochemical oxygen demand (BOD)	0.77 – 0.92 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.42 g O <sub>2</sub> /g substance
ThOD	1.513 g O <sub>2</sub> /g substance
BOD (% of ThOD)	> 0.5 (5 day(s), Literature study)

### 12.3. Bioaccumulative potential

#### Ethanol (64-17-5)

BCF - Fish [1]	1 (Other, 72 h, Cyprinus carpio, Static system, Fresh water, Read-across)
Partition coefficient n-octanol/water (Log Pow)	-0.31 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

#### Acetic Acid (64-19-7)

BCF - Fish [1]	3.16 (Pisces, Fresh water, QSAR)
Partition coefficient n-octanol/water (Log Pow)	-0.17 (Experimental value, 25 °C)
Bioaccumulative potential	Not bioaccumulative.

#### Propanoic Acid (79-09-4)

BCF - Other aquatic organisms [1]	< 100
Partition coefficient n-octanol/water (Log Pow)	0.25 – 0.33 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 12.4. Mobility in soil

#### Ethanol (64-17-5)

Surface tension	0.022 N/m (20 °C)
Ecology - soil	Highly mobile in soil.

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Acetic Acid (64-19-7)	
Surface tension	26.3 mN/m (30 °C)
Ecology - soil	Highly mobile in soil. May be harmful to plant growth, blooming and fruit formation.
Propanoic Acid (79-09-4)	
Surface tension	0.027 N/m (20 °C)

### 12.5. Results of PBT and vPvB assessment

Component	
Ethanol (64-17-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Acetic Acid (64-19-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Flammable vapours may accumulate in the container. Do not re-use empty containers.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

### 14.1. UN number or ID number

UN-No. (ADR)	: UN 1993
UN-No. (IMDG)	: UN 1993
UN-No. (IATA)	: UN 1993
UN-No. (ADN)	: UN 1993
UN-No. (RID)	: UN 1993

### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: FLAMMABLE LIQUID, N.O.S. (MIXTURE CONTAINS : Ethanol)
Proper Shipping Name (IMDG)	: FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IATA)	: Flammable liquid, n.o.s.
Proper Shipping Name (ADN)	: FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (RID)	: FLAMMABLE LIQUID, N.O.S.
Transport document description (ADR)	: UN 1993 FLAMMABLE LIQUID, N.O.S. (MIXTURE CONTAINS : Ethanol), 3, II, (D/E)
Transport document description (IMDG)	: UN 1993 FLAMMABLE LIQUID, N.O.S., 3, II
Transport document description (IATA)	: UN 1993 Flammable liquid, n.o.s., 3, II
Transport document description (ADN)	: UN 1993 FLAMMABLE LIQUID, N.O.S., 3, II
Transport document description (RID)	: UN 1993 FLAMMABLE LIQUID, N.O.S., 3, II

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### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 3  
Danger labels (ADR) : 3



#### IMDG

Transport hazard class(es) (IMDG) : 3  
Danger labels (IMDG) : 3



#### IATA

Transport hazard class(es) (IATA) : 3  
Danger labels (IATA) : 3



#### ADN

Transport hazard class(es) (ADN) : 3  
Danger labels (ADN) : 3



#### RID

Transport hazard class(es) (RID) : 3  
Danger labels (RID) : 3



### 14.4. Packing group

Packing group (ADR) : II  
Packing group (IMDG) : II  
Packing group (IATA) : II  
Packing group (ADN) : II  
Packing group (RID) : II

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available


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### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR)	: F1
Special provisions (ADR)	: 274, 601, 640D
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T7
Portable tank and bulk container special provisions (ADR)	: TP1, TP8, TP28
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Operation (ADR)	: S2, S20
Hazard identification number (Kemler No.)	: 33
Orange plates	: 
Tunnel restriction code (ADR)	: D/E
EAC code	: •3YE

#### Transport by sea

Special provisions (IMDG)	: 274
Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP1, TP28, TP8
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-E
Stowage category (IMDG)	: B

#### Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 353
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 364
CAO max net quantity (IATA)	: 60L
Special provisions (IATA)	: A3
ERG code (IATA)	: 3H

#### Inland waterway transport

Classification code (ADN)	: F1
Special provisions (ADN)	: 274, 601, 640D
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E2
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1

#### Rail transport

Classification code (RID)	: F1
Special provisions (RID)	: 274, 601, 640D
Limited quantities (RID)	: 1L

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Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T7
Portable tank and bulk container special provisions (RID)	: TP1, TP8, TP28
Tank codes for RID tanks (RID)	: LGBF
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE7
Hazard identification number (RID)	: 33

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

##### REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

##### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

##### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

##### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

#### 15.1.2. National regulations

##### France

Occupational diseases	
Code	Description
RG 74	Occupational disorders caused by furfural and furfuryl alcohol

##### Germany

Water hazard class (WGK) : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : Ethanol is listed

SZW-lijst van mutagene stoffen : None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : Ethanol is listed



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SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : Ethanol is listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : Ethanol is listed

### Denmark

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F <Flam. Liq. 2>; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Pregnant/breastfeeding women working with the product must not be in direct contact with the product

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet

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### Abbreviations and acronyms:

STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

### Full text of H- and EUH-statements:

Acute Tox. 2 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation