



SAFETY DATA SHEET.

This safety data sheet complies with the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision Date 20-Dec-2019

Version 1

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code(s) 614
Product name BEER FLAVOR, DRY STOUT TYPE, NATURAL FLAVOR BLEND

Pure substance/mixture Mixture

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

Recommended Use Ingredient for further processing

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Manufacturer Apex Flavors, Inc.
1371 Brass Mill Rd.
Suite A
Belcamp, MD 21017
(410) 565-6600

For further information, please contact:

E-mail Address cpisano@apexflavors.com

1.4. Emergency telephone number

Emergency telephone Chemtrec: 1-800-424-9300 for US/ 703-527-3887 outside US

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Serious eye damage/eye irritation	Category 2 - (H319)
Chronic aquatic toxicity	Category 2 - (H411)
Flammable liquids	Category 3 - (H226)

2.2. Label elements

Product identifier
Contains BENZYL ALCOHOL



Signal Word
Warning

Hazard Statements

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H411 - Toxic to aquatic life with long lasting effects

H226 - Flammable liquid and vapor

Precautionary Statements - EU (§28, 1272/2008)

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking P370 +

P378 - In case of fire: Use .? to extinguish

P273 - Avoid release to the environment

2.3. Other information

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Chemical Name	EC-No	CAS-No	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
ETHYL ALCOHOL	200-578-6	64-17-5	50-90%	Flam. Liq. 2 (H225) Eye Irrit. 1 (H319)	No data available
GLYCERINE	Present	56-81-5	15-20%	No data available	No data available
PROPYLENE GLYCOL	200-338-0	57-55-6	1-5%	No data available	No data available
Trade Secret	Listed	-	1-5%	Acute Tox. 5 (H333) Acute Tox. 4 (H302)	No data available
Trade Secret	Listed	-	<1%	Skin Corr. 1A (314) Eye Dam. 1 (H318) Flam. Liq. 3 (H226)	No data available
ETHYL ACETATE	Present	141-78-6	<1%	Eye Irrit. 1 (H319) (EFFA) Flam. Liq. 2 (H225) (EFFA) Eye Irrit. 1 (H319) Eye Irrit. 2 (H319) (EUH066) STOT SE 3 (H336) Flam. Liq. 2 (H225)	No data available
ISOAMYL ACETATE	Present	123-92-2	<1%	Aquatic Acute 3 (H402) (EFFA) (EUH066) Flam. Liq. 3 (H226)	No data available
ISOAMYL ALCOHOL	204-633-5	123-51-3	<1%	Eye Irrit. 1 (H319) (EFFA) Skin Irrit. 2 (315) (EFFA) Flam. Liq. 3 (H226)(EFFA)	No data available
ACETALDEHYDE	200-836-8	75-07-0	<1%	Carc. 2 (H351) (EFFA) Eye Irrit. 1 (H319) (EFFA) Flam. Liq. 1 (H224) (EFFA) Eye Irrit. 2 (H319) Muta. 2 (H341) Carc. 1B (H350) STOT SE 3 (H335) Flam. Liq. 1 (H224)	No data available
ISOBUTYL ALCOHOL	201-148-0	78-83-1	<1%	Eye Dam. 1 (H318) (EFFA) Skin Irrit. 2 (315) (EFFA) Flam. Liq. 3 (H226)(EFFA) Eye Dam. 1 (H318) Skin Irrit. 2 (H315) STOT SE 3 (H335) STOT SE 3 (H336) Flam. Liq. 3 (H226)	No data available
ISOBUTYRALDEHYDE	201-149-6	78-84-2	<1%	Aquatic Acute 3 (H402) (EFFA) Eye Irrit. 2 (H320) (EFFA) Flam. Liq. 2 (H225) (EFFA)	No data available
Trade Secret	Listed	-	<1%	Acute Tox. 4 (H302) Aquatic Acute 3 (H402) (EFFA)	No data available

				Eye Irrit. 1 (H319) (EFLA) Skin Irrit. 3 (316) (EFLA) Acute Tox. 4 (H302) (EFLA) Acute Tox. 4 (H312)(EFLA) Flam. Liq. 3 (H226)(EFLA)	
Trade Secret	Listed	-	<1%	Eye Irrit. 1 (H319) (EFLA) Skin Irrit. 3 (316) (EFLA) Flam. Liq. 3 (H226)(EFLA)	No data available
DIMETHYL SULFIDE	200-846-2	75-18-3	<1%	Aquatic Acute 3 (H402) (EFLA) Eye Irrit. 1 (H319) (EFLA) Skin Irrit. 3 (316) (EFLA) Flam. Liq. 2 (H225) (EFLA)	No data available
METHYL MERCAPTAN	200-822-1	74-93-1	<1%	Aquatic Acute 1 (H400) (EFLA) Aquatic Chronic 1 (H410) (EFLA) Acute Tox. 3 (H331)(EFLA) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Flam. Gas 1 (H220) Press. Gas	No data available

For the full text of the R-phrases mentioned in this Section, see Section 16

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

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Immediate medical attention is required. Show this material safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air.
Skin contact	Wash off immediately with plenty of water.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Self-protection of the first aider	Remove all sources of ignition.

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

Main Symptoms No information available.

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

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.3. Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers.

6.4. Reference to other sections

See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling

Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

General Hygiene Considerations

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep tightly closed in a dry and cool place. Keep in properly labeled containers.

Incompatible products

None known based on information supplied.

7.3 Specific end use(s)

Risk Management Methods (RMM)

The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Chemical Name	European Union	The United Kingdom	France	Spain	Germany
ETHYL ALCOHOL 64-17-5	-	STEL: 3000 ppm STEL: 5760 mg/m ³ TWA: 1000 ppm TWA: 1920 mg/m ³	VME: 1000 ppm VME: 1900 mg/m ³ VLCT: 5000 ppm VLCT: 9500 mg/m ³	VLA-ED: 1000 ppm VLA-ED: 1910 mg/m ³	-
GLYCERINE 56-81-5	-	STEL: 30 mg/m ³ TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	-
PROPYLENE GLYCOL 57-55-6	-	STEL: 450 ppm STEL: 1422 mg/m ³ STEL: 30 mg/m ³ TWA: 150 ppm TWA: 474 mg/m ³ TWA: 10 mg/m ³	-	-	-
Trade Secret	TWA 10 ppm TWA 25 mg/m ³	-	VLCT: 10 ppm VLCT: 25 mg/m ³	VLA-EC: 15 ppm VLA-EC: 37 mg/m ³ VLA-ED: 10 ppm VLA-ED: 25 mg/m ³	-
ETHYL ACETATE 141-78-6	-	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 1400 mg/m ³	TWA: 400 ppm TWA: 1460 mg/m ³	-
ISOAMYL ACETATE 123-92-2	TWA 50 ppm TWA 270 mg/m ³ STEL 100 ppm STEL 540 mg/m ³	TWA: 50 ppm TWA: 270 mg/m ³	TWA: 50 ppm TWA: 270 mg/m ³ STEL: 100 ppm STEL: 540 mg/m ³	STEL: 100 ppm STEL: 540 mg/m ³ TWA: 50 ppm TWA: 270 mg/m ³	-
ISOAMYL ALCOHOL 123-51-3	-	STEL: 125 ppm STEL: 458 mg/m ³ TWA: 100 ppm TWA: 366 mg/m ³	TWA: 100 ppm TWA: 360 mg/m ³	STEL: 125 ppm STEL: 458 mg/m ³ TWA: 100 ppm TWA: 366 mg/m ³	-
ACETALDEHYDE 75-07-0	-	STEL: 50 ppm STEL: 92 mg/m ³ TWA: 20 ppm TWA: 37 mg/m ³	TWA: 100 ppm TWA: 180 mg/m ³	STEL: 25 ppm STEL: 46 mg/m ³	-
ISOBUTLY ALCOHOL 78-83-1	-	STEL: 75 ppm STEL: 231 mg/m ³ TWA: 50 ppm TWA: 154 mg/m ³	TWA: 50 ppm TWA: 150 mg/m ³	TWA: 50 ppm TWA: 154 mg/m ³	-
DIMETHYL SULFIDE 75-18-3	-	-	-	VLA-ED: 10 ppm	-
METHYL MERCAPTAN 74-93-1	-	STEL: 1.5 ppm STEL: 3.0 mg/m ³ TWA: 0.5 ppm TWA: 1.0 mg/m ³	TWA: 0.5 ppm TWA: 1 mg/m ³	TWA: 0.5 ppm TWA: 1 mg/m ³	-
Chemical Name	Italy	Portugal	The Netherlands	Finland	Denmark
ETHYL ALCOHOL 64-17-5	-	TWA: 1000 ppm	Skin STEL: 1900 mg/m ³ TWA: 260 mg/m ³	TWA: 1000 ppm TWA: 1900 mg/m ³ STEL: 1300 ppm STEL: 2500 mg/m ³	TWA: 1000 ppm TWA: 1900 mg/m ³
GLYCERINE 56-81-5	-	TWA: 10 mg/m ³	-	TWA: 20 mg/m ³	-
Trade Secret	-	-	-	TWA: 10 ppm TWA: 45 mg/m ³	-
Trade Secret	-	STEL: 15 ppm TWA: 10 ppm	-	TWA: 5 ppm TWA: 13 mg/m ³ STEL: 10 ppm STEL: 25 mg/m ³	TWA: 10 ppm TWA: 25 mg/m ³
ETHYL ACETATE 141-78-6	-	TWA: 400 ppm	-	TWA: 300 ppm TWA: 1100 mg/m ³ STEL: 500 ppm STEL: 1800 mg/m ³	TWA: 150 ppm TWA: 540 mg/m ³
ISOAMYL ACETATE 123-92-2	TWA: 50 ppm TWA: 270 mg/m ³ STEL: 100 ppm STEL: 540 mg/m ³	STEL: 100 ppm STEL: 540 mg/m ³ TWA: 50 ppm	STEL: 530 mg/m ³	TWA: 50 ppm TWA: 270 mg/m ³ STEL: 100 ppm STEL: 540 mg/m ³	TWA: 50 ppm TWA: 271 mg/m ³
ISOAMYL ALCOHOL 123-51-3	-	STEL: 125 ppm TWA: 100 ppm	-	TWA: 100 ppm TWA: 370 mg/m ³	TWA: 100 ppm TWA: 360 mg/m ³

				STEL: 150 ppm STEL: 550 mg/m ³	
ACETALDEHYDE 75-07-0	-	Ceiling: 25 ppm	STEL: 92 mg/m ³ TWA: 37 mg/m ³	STEL: 25 ppm STEL: 46 mg/m ³	Ceiling: 25 ppm Ceiling: 45 mg/m ³
ISOBUTLY ALCOHOL 78-83-1	-	TWA: 50 ppm	-	-	Ceiling: 50 ppm Ceiling: 150 mg/m ³ Skin
Trade Secret	-	-	-	STEL: 10 ppm STEL: 42 mg/m ³	-
DIMETHYL SULFIDE 75-18-3	-	TWA: 10 ppm	-	-	-
METHYL MERCAPTAN 74-93-1	-	TWA: 0.5 ppm	-	TWA: 0.5 ppm TWA: 1 mg/m ³ STEL: 1.5 ppm STEL: 3 mg/m ³	TWA: 0.5 ppm TWA: 1 mg/m ³
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
ETHYL ALCOHOL 64-17-5	STEL 2000 ppm STEL 3800 mg/m ³ MAK: 1000 ppm MAK: 1900 mg/m ³	STEL: 1000 ppm STEL: 1920 mg/m ³ MAK: 500 ppm MAK: 960 mg/m ³	NDS: 1900 mg/m ³	TWA: 500 ppm TWA: 950 mg/m ³ STEL: 625 ppm STEL: 1187.5 mg/m ³	TWA: 1000 ppm TWA: 1900 mg/m ³
GLYCERINE 56-81-5	-	STEL: 100 mg/m ³ TWA: 50 mg/m ³	TWA: 10 mg/m ³	-	TWA: 10 mg/m ³
PROPYLENE GLYCOL 57-55-6	-	-	-	TWA: 25 ppm TWA: 79 mg/m ³ STEL: 37.5 ppm STEL: 118.5 mg/m ³	TWA: 150 ppm TWA: 470 mg/m ³ TWA: 10 mg/m ³
Trade Secret	-	-	NDS: 240 mg/m ³	-	-
Trade Secret	STEL 20 ppm STEL 50 mg/m ³ MAK: 10 ppm MAK: 25 mg/m ³	STEL: 20 ppm STEL: 50 mg/m ³ MAK: 10 ppm MAK: 25 mg/m ³	NDSCh: 30 mg/m ³ NDS: 15 mg/m ³	TWA: 10 ppm TWA: 25 mg/m ³ STEL: 20 ppm STEL: 37.5 mg/m ³	TWA: 10 ppm TWA: 25 mg/m ³ STEL: 15 ppm STEL: 37 mg/m ³
ETHYL ACETATE 141-78-6	STEL 600 ppm STEL 2100 mg/m ³ TWA: 300 ppm TWA: 1050 mg/m ³	STEL: 800 ppm STEL: 2800 mg/m ³ TWA: 400 ppm TWA: 1400 mg/m ³	STEL: 600 mg/m ³ TWA: 200 mg/m ³	TWA: 150 ppm TWA: 550 mg/m ³ STEL: 187.5 ppm STEL: 687.5 mg/m ³	TWA: 200 ppm STEL: 400 ppm
ISOAMYL ACETATE 123-92-2	STEL 100 ppm STEL 540 mg/m ³ TWA: 50 ppm TWA: 270 mg/m ³	TWA: 50 ppm TWA: 260 mg/m ³	STEL: 500 mg/m ³ TWA: 250 mg/m ³	TWA: 50 ppm TWA: 260 mg/m ³ STEL: 75 ppm STEL: 325 mg/m ³	TWA: 50 ppm TWA: 260 mg/m ³ STEL: 100 ppm STEL: 520 mg/m ³
ISOAMYL ALCOHOL 123-51-3	STEL 200 ppm STEL 720 mg/m ³ TWA: 100 ppm TWA: 360 mg/m ³	STEL: 80 ppm STEL: 292 mg/m ³ TWA: 20 ppm TWA: 73 mg/m ³	STEL: 400 mg/m ³ TWA: 200 mg/m ³	TWA: 50 ppm TWA: 180 mg/m ³ STEL: 75 ppm STEL: 225 mg/m ³	TWA: 100 ppm TWA: 360 mg/m ³ STEL: 125 ppm STEL: 450 mg/m ³
ACETALDEHYDE 75-07-0	STEL 50 ppm STEL 90 mg/m ³ TWA: 50 ppm TWA: 90 mg/m ³ Ceiling 50 ppm Ceiling 90 mg/m ³	STEL: 50 ppm STEL: 90 mg/m ³ TWA: 90 mg/m ³ TWA: 50 ppm	: 45 mg/m ³ TWA: 5 mg/m ³	TWA: 25 ppm TWA: 45 mg/m ³ STEL: 37.5 ppm STEL: 67.5 mg/m ³	TWA: 25 ppm TWA: 45 mg/m ³ STEL: 25 ppm STEL: 45 mg/m ³
ISOBUTLY ALCOHOL 78-83-1	STEL 200 ppm STEL 600 mg/m ³ TWA: 50 ppm TWA: 150 mg/m ³	STEL: 50 ppm STEL: 150 mg/m ³ TWA: 50 ppm TWA: 150 mg/m ³	STEL: 200 mg/m ³ TWA: 100 mg/m ³	Skin Ceiling: 25 ppm Ceiling: 75 mg/m ³	TWA: 50 ppm TWA: 150 mg/m ³ STEL: 75 ppm STEL: 225 mg/m ³
ISOBUTYRALDEHYDE 78-84-2	-	-	TWA: 100 mg/m ³	-	-
Trade Secret	-	-	NDSCh: 80 mg/m ³ NDS: 40 mg/m ³	-	-
DIMETHYL SULFIDE 75-18-3	-	-	-	-	TWA: 20 ppm
METHYL MERCAPTAN 74-93-1	STEL 0.5 ppm STEL 1 mg/m ³ TWA: 0.5 ppm TWA: 1 mg/m ³ Ceiling 0.5 ppm Ceiling 1 mg/m ³	STEL: 1 ppm STEL: 2 mg/m ³ TWA: 0.5 ppm TWA: 1 mg/m ³	STEL: 2 mg/m ³ TWA: 1 mg/m ³	TWA: 0.5 ppm TWA: 1 mg/m ³ STEL: 1.5 ppm STEL: 3 mg/m ³	TWA: 0.5 ppm TWA: 1 mg/m ³ STEL: 1.5 ppm STEL: 3 mg/m ³

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection Tightly fitting safety goggles.

Skin and body protection Antistatic boots. Wear fire/ flame resistant/ retardant clothing. Impervious gloves.

Respiratory protection NIOSH/MSHA approved respiratory protection is required to be worn.

Environmental Exposure Controls No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state liquid
 Appearance clear
 Aroma Characteristic of dry stout beer.
 Color No information available

<u>Property</u>	<u>Values</u>	<u>• Method</u>
pH		No information available
Melting/freezing point		No information available
Boiling point/boiling range		FCC Method
Flash Point	23 °C / 74 °F	Closed cup
Evaporation rate		FCC Method
Flammability (solid, gas)		No information available
Flammability Limits in Air		
Upper flammability limit		No information available
lower flammability limit		No information available
Vapor pressure mm Hg 20°C		No information available
Vapor density		No information available
Relative density		No information available
Specific Gravity @ 25C	0.9316 0.9616	FCC Method
Specific Gravity @ 20C	0.9346 0.9646	FCC Method
Refractive Index	1.3754 1.4054	FCC Method
Water solubility	Soluble in water	No information available
Solubility in other solvents		No information available
Partition coefficient: n-octanol/water		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic		No information available
Viscosity, dynamic		No information available
Explosive properties	No information available	
Oxidizing Properties	No information available	

9.2. Other information

Softening point No information available
 Molecular Weight No information available
 VOC Content(%) No information available
 Density VALUE No information available
 Bulk Density VALUE No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact none.

Sensitivity to Static Discharge none.

10.3. Possibility of hazardous reactions**Hazardous Reactions**

None under normal processing.

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

None under normal use conditions.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects****Acute toxicity****Product Information**

Product does not present an acute toxicity hazard based on known or supplied information.

Inhalation There is no data available for this product.

Eye contact There is no data available for this product.

Skin contact There is no data available for this product.

Ingestion There is no data available for this product.

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 6,929.00 mg/kg

ATEmix (dermal) 9,515.10 mg/kg

ATEmix (inhalation-dust/mist) 3.94 mg/l

ATEmix (inhalation-vapor) 24.90 mg/l

Unknown Acute Toxicity

98.73374% of the mixture consists of ingredient(s) of unknown toxicity.

34.88399 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

72.11655 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

98.73374 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

97.73374 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

20.80118 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Oral LD50

Chemical Name	Oral LD50	Dermal LD50	LC50 Inhalation
ETHYL ALCOHOL	7060 mg/kg (Rat)		124.7 mg/L (Rat) 4 h
GLYCERINE		10 g/kg (Rabbit)	570 mg/m ³ (Rat) 1 h

PROPYLENE GLYCOL	20000 mg/kg (Rat)	20800 mg/kg (Rabbit)	
Trade Secret	1230 mg/kg (Rat)	2000 mg/kg (Rabbit)	8.8 mg/L (Rat) 4 h

Skin corrosion/irritation	No information available.
Eye damage/irritation	No information available.
Sensitization	No information available.
Germ Cell Mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
Specific target organ systemic toxicity (single exposure)	No information available.
Specific target organ systemic toxicity (repeated exposure)	No information available.
Target Organ Effects	Blood, Central nervous system, Eyes, Kidney, Liver, Reproductive system, Respiratory system, Skin.
Aspiration hazard	No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity Toxic to aquatic life Toxic to aquatic life with long lasting effects

15.03399% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
ETHYL ALCOHOL	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	9268 - 14221: 48 h Daphnia magna mg/L LC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static
GLYCERINE	-	51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static	500: 24 h Daphnia magna mg/L EC50
PROPYLENE GLYCOL	19000: 96 h Pseudokirchneriella subcapitata mg/L EC50	51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41 - 47: 96 h Oncorhynchus mykiss mL/L LC50 static 51400: 96 h Pimephales promelas mg/L LC50 static 710: 96 h Pimephales promelas mg/L LC50	10000: 24 h Daphnia magna mg/L EC50 1000: 48 h Daphnia magna mg/L EC50 Static
Trade Secret	35: 3 h Anabaena variabilis mg/L EC50	10: 96 h Lepomis macrochirus mg/L LC50 static 460: 96 h Pimephales promelas mg/L LC50 static	23: 48 h water flea mg/L EC50
Trade Secret	-	75: 96 h Lepomis macrochirus mg/L LC50 static 79: 96 h Pimephales promelas mg/L LC50 static	47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static
ETHYL ACETATE	3300: 48 h Desmodesmus subspicatus mg/L EC50	220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	560: 48 h Daphnia magna mg/L EC50 Static

ISOAMYL ALCOHOL	493: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50 181: 96 h <i>Desmodesmus subspicatus</i> mg/L EC50	700: 96 h <i>Salmo gairdneri</i> mg/L LC50 static	260: 48 h <i>Daphnia magna</i> mg/L EC50
ACETALDEHYDE	237 - 249: 120 h <i>Nitzschia linearis</i> mg/L EC50	28.0 - 34.0: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 53: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 1.8 - 2.4: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 39.8 - 46.8: 96 h <i>Pimephales promelas</i> mg/L LC50 static	3.64 - 6.15: 48 h <i>Daphnia magna</i> mg/L EC50 Static 48.3: 48 h <i>Daphnia magna</i> mg/L EC50
ISOBUTLY ALCOHOL	230: 48 h <i>Desmodesmus subspicatus</i> mg/L EC50	1370 - 1670: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 375: 96 h <i>Pimephales promelas</i> mg/L LC50 static 1480 - 1730: 96 h <i>Lepomis macrochirus</i> mg/L LC50 flow-through 1120 - 1520: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through	1300: 48 h <i>Daphnia magna</i> mg/L EC50 1070 - 1933: 48 h <i>Daphnia magna</i> mg/L EC50 Static
ISOBUTYRALDEHYDE	84: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50	23: 96 h <i>Pimephales promelas</i> mg/L LC50 static	277: 48 h <i>Daphnia magna</i> Straus mg/L EC50
Trade Secret	-	89.7 - 106: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 144: 96 h <i>Brachydanio rerio</i> mg/L LC50 static	201: 24 h <i>Daphnia magna</i> mg/L EC50
Trade Secret	-	12-16.5: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through	-
DIMETHYL SULFIDE	-	-	23: 48 h <i>Daphnia pulex</i> mg/L EC50

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical Name	log Pow
ETHYL ALCOHOL	-0.32
GLYCERINE	-1.76
Trade Secret	1.1
Trade Secret	-0.31
ETHYL ACETATE	0.6
ISOAMYL ALCOHOL	1.28
ACETALDEHYDE	0.5
ISOBUTLY ALCOHOL	0.79
ISOBUTYRALDEHYDE	0.77
Trade Secret	2.03

12.4. Mobility in soil**Mobility in soil**

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty remaining contents.

Section 14: TRANSPORT INFORMATION

IMDG / IMO

14.1 UN/ID No	1197
14.2 Proper shipping name	EXTRACTS, FLAVOURING, LIQUID
14.3 Hazard class	3
14.4 Packing Group	III
Marine pollutant	This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

DOT/ADR/RID

14.1 UN/ID No	1197
14.2 Proper shipping name	EXTRACTS, FLAVOURING, LIQUID
14.3 Hazard class	3
14.4 Packing Group	III

ICAO/IATA

14.1 UN/ID No	1197
14.2 Proper shipping name	EXTRACTS, FLAVOURING, LIQUID
14.3 Hazard class	3
14.4 Packing Group	III
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

Section 15: REGULATORY INFORMATION

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

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

International Inventories

TSCA	not determined
DSL/NDSL	not determined
EINECS/ELINCS	not determined
ENCS	not determined
IECSC	not determined
KECL	not determined
PICCS	not determined
AICS	not determined

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

No information available

Section 16: OTHER INFORMATION
Key or legend to abbreviations and acronyms used in the safety data sheet**Full text of R-phrases referred to under sections 2 and 3**

R10 - Flammable
R20/22 - Harmful by inhalation and if swallowed

Full text of H-Statements referred to under section 3

EUH066 - Repeated exposure may cause skin dryness or cracking
H220 - Extremely flammable gas
H224 - Extremely flammable liquid and vapor
H225 - Highly flammable liquid and vapor
H226 - Flammable liquid and vapor
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H320 - Causes eye irritation
H331 - Toxic if inhaled
H333 - May be harmful if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H341 - Suspected of causing genetic defects
H350 - May cause cancer
H351 - Suspected of causing cancer
H400 - Very toxic to aquatic life
H402 - Harmful to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA:	Time weighted average	STEL:	Short term exposure limit
Ceiling:	Maximum limit value:	*	Skin designation

Revision Date 20-Dec-2019

Reason for revision: Not applicable.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.