



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

Revision Date 06-Mar-2019

Version 1

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

**1.1. Product identifier**

**Product Code(s)** 239, 239TTB, 239BEV, 239ICR  
**Product name** BLACK CHERRY TYPE, NATURAL FLAVOR BLEND

**Pure substance/mixture** Mixture  
 Contains BENZALDEHYDE, ETHYL ALCOHOL

**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

<b>Acute toxicity - Inhalation (Vapors)</b>	Category 4 - (H332)
<b>Serious eye damage/eye irritation</b>	Category 2 - (H319)
<b>Carcinogenicity</b>	Category 1A - (H350)
<b>Chronic aquatic toxicity</b>	Category 2 - (H411)
<b>Flammable liquids</b>	Category 3 - (H226)

**2.2. Label elements**

**Product identifier**  
 Contains BENZALDEHYDE, ETHYL ALCOHOL

**Signal Word**

Danger

**Hazard Statements**

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H350 - May cause cancer

H411 - Toxic to aquatic life with long lasting effects

H226 - Flammable liquid and vapor

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

P201 - Obtain special instructions before use

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P370 + P378 - In case of fire: Use . ? to extinguish

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

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
PROPYLENE GLYCOL	200-338-0	57-55-6	20-30%	No data available	No data available
ETHYL ALCOHOL	200-578-6	64-17-5	15-20%	Flam. Liq. 2 (H225) Eye Irrit. 1 (H319)	No data available
GLYCERINE	Present	56-81-5	15-20%	No data available	No data available
BENZALDEHYDE	Present	100-52-7	1-5%	Acute Tox. 4 (H302) Aquatic Acute 2 (H401) (EFFA) Eye Irrit. 1 (H319) (EFFA) Skin Irrit. 3 (316) (EFFA) Acute Tox. 4 (H302) (EFFA) Flam. Liq. 4 (H227)(EFFA) Acute Tox. 4 (H332)(EFFA) Aquatic Acute 2 (H401) Eye Irrit. 1 (H319) Skin Irrit. 3 (H316) Acute Tox. 4 (H302) Acute Tox. 4 (H332)	No data available
ISOAMYL ALCOHOL	204-633-5	123-51-3	<1%	Flam. Liq. 3 (H226)(EFFA) Acute Tox. 4 (H332)(EFFA)	No data available
ISOAMYL ACETATE	Present	123-92-2	<1%	Aquatic Acute 3 (H402) (EFFA) (EUH066) Flam. Liq. 3 (H226)	No data available
BENZYL ALCOHOL	202-859-9	100-51-6	<1%	Acute Tox. 5 (H333) Acute Tox. 4 (H302)	No data available
ACETOPHENONE	202-708-7	98-86-2	<1%	Acute Tox. 4 (H302) Eye Irrit. 1 (H319) (EFFA) Acute Tox. 4 (H302) (EFFA) Eye Irrit. 2 (H319)	No data available

ETHYL ACETATE	Present	141-78-6	<1%	Eye Irrit. 1 (H319) (EFLA) Flam. Liq. 2 (H225) (EFLA) Eye Irrit. 1 (H319) (EUH066) Flam. Liq. 2 (H225) STOT SE 3 (H336) Eye Irrit. 2 (H319)	No data available
DIMETHYL SULFIDE	200-846-2	75-18-3	<1%	Skin Irrit. 3 (316) (EFLA) Acute Tox. 3 (H301) (EFLA) Flam. Liq. 2 (H225) (EFLA)	No data available
BENZYL ALCOHOL	202-859-9	100-51-6	<1%	Acute Tox. 5 (H333) Acute Tox. 4 (H302)	No data available
BENZYL ACETATE	Present	140-11-4	<1%	Aquatic Acute 2 (H401) (EFLA) Skin Irrit. 3 (316) (EFLA) Acute Tox. 5 (H303)(EFLA) Flam. Liq. 4 (H227)(EFLA) Aquatic Acute 2 (H401) Skin Irrit. 3 (H316) Acute Tox. 5 (H303)	No data available
LIMONENE	227-813-5	5989-27-5	<1%	Aquatic Acute 1 (H400) Skin Sens. 1 (H317) Skin Irrit. 1 (H315) Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410) Flam. Liq. 3 (H226)	No data available
PINENES	201-291-9	80-56-8	<1%	Aquatic Acute 1 (H400) Skin Sens. 1 (H317) Skin Irrit. 1 (H315) Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410) Acute Tox. 5 (H303) Flam. Liq. 3 (H226)	No data available
P-CYMENE	202-796-7	99-87-6	NF	Aquatic Acute 2 (H401) Skin Irrit. 3 (H316) Aquatic Chronic 2 (H411) Asp. Tox. 1 (H304) Acute Tox. 5 (H303) Flam. Liq. 3 (H226)	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

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

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**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**

No information available

#### 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**

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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
PROPYLENE GLYCOL 57-55-6	-	STEL: 450 ppm STEL: 1422 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup> TWA: 150 ppm TWA: 474 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>	-	-	-
ETHYL ALCOHOL 64-17-5	-	STEL: 3000 ppm STEL: 5760 mg/m <sup>3</sup> TWA: 1000 ppm TWA: 1920 mg/m <sup>3</sup>	VME: 1000 ppm VME: 1900 mg/m <sup>3</sup> VLCT: 5000 ppm VLCT: 9500 mg/m <sup>3</sup>	VLA-ED: 1000 ppm VLA-ED: 1910 mg/m <sup>3</sup>	-
GLYCERINE 56-81-5	-	STEL: 30 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-
ISOAMYL ALCOHOL 123-51-3	-	STEL: 125 ppm STEL: 458 mg/m <sup>3</sup> TWA: 100 ppm TWA: 366 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 360 mg/m <sup>3</sup>	STEL: 125 ppm STEL: 458 mg/m <sup>3</sup> TWA: 100 ppm TWA: 366 mg/m <sup>3</sup>	-
ISOAMYL ACETATE 123-92-2	TWA 50 ppm TWA 270 mg/m <sup>3</sup> STEL 100 ppm STEL 540 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 270 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 270 mg/m <sup>3</sup> STEL: 100 ppm STEL: 540 mg/m <sup>3</sup>	STEL: 100 ppm STEL: 540 mg/m <sup>3</sup> TWA: 50 ppm TWA: 270 mg/m <sup>3</sup>	-
ACETOPHENONE 98-86-2	-	-	-	TWA: 10 ppm TWA: 50 mg/m <sup>3</sup>	-
ETHYL ACETATE 141-78-6	-	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup>	TWA: 400 ppm TWA: 1460 mg/m <sup>3</sup>	-
DIMETHYL SULFIDE 75-18-3	-	-	-	VLA-ED: 10 ppm	-
BENZYL ACETATE 140-11-4	-	-	-	TWA: 10 ppm TWA: 62 mg/m <sup>3</sup>	-
PINENES 80-56-8	-	-	-	VLA-ED: 20 ppm VLA-ED: 113 mg/m <sup>3</sup>	-
Chemical Name	Italy	Portugal	The Netherlands	Finland	Denmark
ETHYL ALCOHOL 64-17-5	-	TWA: 1000 ppm	Skin STEL: 1900 mg/m <sup>3</sup> TWA: 260 mg/m <sup>3</sup>	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> STEL: 1300 ppm STEL: 2500 mg/m <sup>3</sup>	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
GLYCERINE 56-81-5	-	TWA: 10 mg/m <sup>3</sup>	-	TWA: 20 mg/m <sup>3</sup>	-
BENZALDEHYDE 100-52-7	-	-	-	TWA: 1 ppm TWA: 4.4 mg/m <sup>3</sup> STEL: 4 ppm STEL: 17.4 mg/m <sup>3</sup> Ceiling: 4 ppm Ceiling: 17.4 mg/m <sup>3</sup>	-
ISOAMYL ALCOHOL	-	STEL: 125 ppm	-	TWA: 100 ppm TWA:	TWA: 100 ppm TWA:

123-51-3		TWA: 100 ppm		370 mg/m <sup>3</sup> STEL: 150 ppm STEL: 550 mg/m <sup>3</sup>	360 mg/m <sup>3</sup>
ISOAMYL ACETATE 123-92-2	TWA: 50 ppm TWA: 270 mg/m <sup>3</sup> STEL: 100 ppm STEL: 540 mg/m <sup>3</sup>	STEL: 100 ppm STEL: 540 mg/m <sup>3</sup> TWA: 50 ppm	STEL: 530 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 270 mg/m <sup>3</sup> STEL: 100 ppm STEL: 540 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 271 mg/m <sup>3</sup>
BENZYL ALCOHOL 100-51-6	-	-	-	TWA: 10 ppm TWA: 45 mg/m <sup>3</sup>	-
ACETOPHENONE 98-86-2	-	TWA: 10 ppm	-	TWA: 5 ppm TWA: 25 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 49 mg/m <sup>3</sup>
ETHYL ACETATE 141-78-6	-	TWA: 400 ppm	-	TWA: 300 ppm TWA: 1100 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1800 mg/m <sup>3</sup>	TWA: 150 ppm TWA: 540 mg/m <sup>3</sup>
DIMETHYL SULFIDE 75-18-3	-	TWA: 10 ppm	-	-	-
BENZYL ALCOHOL 100-51-6	-	-	-	TWA: 10 ppm TWA: 45 mg/m <sup>3</sup>	-
BENZYL ACETATE 140-11-4	-	TWA: 10 ppm	-	-	TWA: 10 ppm TWA: 61 mg/m <sup>3</sup>
LIMONENE 5989-27-5	-	-	-	TWA: 25 ppm TWA: 140 mg/m <sup>3</sup> STEL: 50 ppm STEL: 280 mg/m <sup>3</sup>	-
PINENES 80-56-8	-	TWA: 20 ppm	-	-	-
P-CYMENE 99-87-6	-	-	-	-	TWA: 25 ppm TWA: 135 mg/m <sup>3</sup>
<b>Chemical Name</b>	<b>Austria</b>	<b>Switzerland</b>	<b>Poland</b>	<b>Norway</b>	<b>Ireland</b>
PROPYLENE GLYCOL 57-55-6	-	-	-	TWA: 25 ppm TWA: 79 mg/m <sup>3</sup> STEL: 37.5 ppm STEL: 118.5 mg/m <sup>3</sup>	TWA: 150 ppm TWA: 470 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>
ETHYL ALCOHOL 64-17-5	STEL 2000 ppm STEL 3800 mg/m <sup>3</sup> MAK: 1000 ppm MAK: 1900 mg/m <sup>3</sup>	STEL: 1000 ppm STEL: 1920 mg/m <sup>3</sup> MAK: 500 ppm MAK: 960 mg/m <sup>3</sup>	NDS: 1900 mg/m <sup>3</sup>	TWA: 500 ppm TWA: 950 mg/m <sup>3</sup> STEL: 625 ppm STEL: 1187.5 mg/m <sup>3</sup>	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
GLYCERINE 56-81-5	-	STEL: 100 mg/m <sup>3</sup> TWA: 50 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-	TWA: 10 mg/m <sup>3</sup>
BENZALDEHYDE 100-52-7	-	-	STEL: 40 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>	-	-
ISOAMYL ALCOHOL 123-51-3	STEL 200 ppm STEL 720 mg/m <sup>3</sup> TWA: 100 ppm TWA: 360 mg/m <sup>3</sup>	STEL: 80 ppm STEL: 292 mg/m <sup>3</sup> TWA: 20 ppm TWA: 73 mg/m <sup>3</sup>	STEL: 400 mg/m <sup>3</sup> TWA: 200 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 180 mg/m <sup>3</sup> STEL: 75 ppm STEL: 225 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 360 mg/m <sup>3</sup> STEL: 125 ppm STEL: 450 mg/m <sup>3</sup>
ISOAMYL ACETATE 123-92-2	STEL 100 ppm STEL 540 mg/m <sup>3</sup> TWA: 50 ppm TWA: 270 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 260 mg/m <sup>3</sup>	STEL: 500 mg/m <sup>3</sup> TWA: 250 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 260 mg/m <sup>3</sup> STEL: 75 ppm STEL: 325 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 260 mg/m <sup>3</sup> STEL: 100 ppm STEL: 520 mg/m <sup>3</sup>
BENZYL ALCOHOL 100-51-6	-	-	NDS: 240 mg/m <sup>3</sup>	-	-
ACETOPHENONE 98-86-2	-	-	STEL: 100 mg/m <sup>3</sup> TWA: 50 mg/m <sup>3</sup>	-	TWA: 10 ppm TWA: 49 mg/m <sup>3</sup>
ETHYL ACETATE 141-78-6	STEL 600 ppm STEL 2100 mg/m <sup>3</sup> TWA: 300 ppm TWA: 1050 mg/m <sup>3</sup>	STEL: 800 ppm STEL: 2800 mg/m <sup>3</sup> TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup>	STEL: 600 mg/m <sup>3</sup> TWA: 200 mg/m <sup>3</sup>	TWA: 150 ppm TWA: 550 mg/m <sup>3</sup> STEL: 187.5 ppm STEL: 687.5 mg/m <sup>3</sup>	TWA: 200 ppm STEL: 400 ppm
DIMETHYL SULFIDE 75-18-3	-	-	-	-	TWA: 20 ppm
BENZYL ALCOHOL 100-51-6	-	-	NDS: 240 mg/m <sup>3</sup>	-	-
LIMONENE 5989-27-5	-	STEL: 40 ppm STEL: 220 mg/m <sup>3</sup> MAK: 20 ppm MAK: 110 mg/m <sup>3</sup>	-	TWA: 25 ppm TWA: 140 mg/m <sup>3</sup> STEL: 37.5 ppm STEL: 175 mg/m <sup>3</sup>	-

PINENES 80-56-8	-	-	-	TWA: 25 ppm TWA: 140 mg/m <sup>3</sup> Skin STEL: 37.5 ppm STEL: 175 mg/m <sup>3</sup>	-
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**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.

**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  
**Odor** characteristic of cherry  
**Color** colorless to slightly yellow

<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	26 °C / 78 °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	0.09989 - 1.1089	FCC Method
Specific Gravity @ 20C	Not Tested	FCC Method
Refractive Index	1.3840 - 1.4040	FCC Method
Water solubility		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 Yes.

**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.

<b>Inhalation</b>	There is no data available for this product.
<b>Eye contact</b>	There is no data available for this product.
<b>Skin contact</b>	There is no data available for this product.
<b>Ingestion</b>	There is no data available for this product.

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

<b>ATEmix (oral)</b>	7,574.00 mg/kg
<b>ATEmix (dermal)</b>	8,560.00 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	334.86 mg/l
<b>ATEmix (inhalation-vapor)</b>	16.00 mg/l

**Unknown Acute Toxicity**

98.7231137% of the mixture consists of ingredient(s) of unknown toxicity.  
 53.3385137 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.  
 55.6532537 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.  
 98.7231137 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).  
 95.7221137 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).  
 63.5283737 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).



## Oral LD50

Chemical Name	Oral LD50	Dermal LD50	LC50 Inhalation
PROPYLENE GLYCOL	20000 mg/kg ( Rat )	20800 mg/kg ( Rabbit )	
ETHYL ALCOHOL	7060 mg/kg ( Rat )		124.7 mg/L ( Rat ) 4 h
GLYCERINE		10 g/kg ( Rabbit )	570 mg/m <sup>3</sup> ( Rat ) 1 h
BENZALDEHYDE	1292 mg/kg ( Rat )	1250 mg/kg ( Rabbit )	

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

## Section 12: ECOLOGICAL INFORMATION

## 12.1. Toxicity

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

36.95671% 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
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
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
BENZALDEHYDE	-	10.6 - 11.8: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 12.69: 96 h Oncorhynchus mykiss mg/L LC50 static 0.8 - 1.44: 96 h	50: 24 h Daphnia magna mg/L EC50

		Lepomis macrochirus mg/L LC50 flow-through 6.8 - 8.53: 96 h Pimephales promelas mg/L LC50 flow-through 7.5: 96 h Lepomis macrochirus mg/L LC50 static	
ISOAMYL ALCOHOL	493: 72 h Desmodemus subspicatus mg/L EC50 181: 96 h Desmodemus subspicatus mg/L EC50	700: 96 h Salmo gairdneri mg/L LC50 static	260: 48 h Daphnia magna mg/L EC50
BENZYL ALCOHOL	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
ACETOPHENONE	-	162: 96 h Pimephales promelas mg/L LC50 flow-through 155: 96 h Pimephales promelas mg/L LC50 static	-
ETHYL ACETATE	3300: 48 h Desmodemus 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
DIMETHYL SULFIDE	-	-	23: 48 h Daphnia pulex mg/L EC50
BENZYL ALCOHOL	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
LIMONENE	-	0.619-0.796: 96 h Pimephales promelas mg/L LC50 flow-through 35: 96 h Oncorhynchus mykiss mg/L LC50	-
PINENES	-	0.28: 96 h Pimephales promelas mg/L LC50 static	41: 48 h Daphnia magna mg/L LC50

**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
BENZALDEHYDE	1.48
ISOAMYL ALCOHOL	1.28
BENZYL ALCOHOL	1.1
ACETOPHENONE	1.73
ETHYL ACETATE	0.6
BENZYL ALCOHOL	1.1
BENZYL ACETATE	1.96
PINENES	4.1
P-CYMENE	4.1

**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

**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	-
DSL/NDSL	-
EINECS/ELINCS	-
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-

**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**

R22 - Harmful if swallowed  
R10 - Flammable

**Full text of H-Statements referred to under section 3**

H333 - May be harmful if inhaled  
H302 - Harmful if swallowed  
H401 - Toxic to aquatic life  
H319 - Causes serious eye irritation  
H227 - Combustible liquid  
H332 - Harmful if inhaled  
H316 - Causes mild skin irritation  
H226 - Flammable liquid and vapor  
H402 - Harmful to aquatic life  
H303 - May be harmful if swallowed  
H225 - Highly flammable liquid and vapor  
H336 - May cause drowsiness or dizziness  
H400 - Very toxic to aquatic life  
H317 - May cause an allergic skin reaction  
H315 - Causes skin irritation  
H304 - May be fatal if swallowed and enters airways  
H410 - Very toxic to aquatic life with long lasting effects  
H301 - Toxic if swallowed  
H411 - Toxic to aquatic life with long lasting effects  
EUH066 - Repeated exposure may cause skin dryness or cracking

**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** 06-Mar-2019

**Reason for revision:** Not applicable.

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

**WARNING/DISCLAIMER:** Apex Flavors, Inc.'s products are sold exclusively for use in food and drink for human consumption. These products have not been tested, nor have they been deemed safe, for inhalation or use in electronic smoking devices, electronic nicotine delivery systems, and electronic cigarettes or similar devices (collectively "E-Cigarettes"). In supplying this product(s), Apex Flavors, Inc. instructs, and purchasing recipient confirms, that this product(s) will not be used in connection with the manufacture and distribution of E-Cigarettes or any component thereof. Recipients of our products that use them outside of their intended use of food or drink do so at their own risk and without warranty, either expressed or implied, from Apex Flavors, Inc. or its suppliers. The user assumes all liability for loss, injury, damage, or expense resulting from such uses.