



1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Number 709CBD

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

Product name BLUE RASPBERRY TYPE FLAVOR, NATURAL AND ARTIFICIAL (OIL SOLUBLE)
Pure substance/mixture Mixture

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

Recommended Use Not for direct consumption

1.3. Details of the supplier of the safety data sheet

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

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Acute oral toxicity	Category 5
Acute dermal toxicity	Category 5
Acute inhalation toxicity - dust/mist	Category 3
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 1A
Acute aquatic toxicity	Category 3
Chronic aquatic toxicity	Category 3
Flammable liquids	Category 3

Classification according to EU Directives 67/548/EEC or 1999/45/EC
For the full text of the R-phrases mentioned in this Section, see Section 16

Symbol(s)

Xn - Harmful

R-code(s)

Carc. cat. 3;R40 - Xn;R21

2.2. Label elements

**Signal Word**

Danger

Hazard Statements

H331 - Toxic if inhaled

H319 - Causes serious eye irritation

H350 - May cause cancer

H412 - Harmful to aquatic life with long lasting effects

H226 - Flammable liquid and vapor

Precautionary Statements

P321 - Specific treatment (see .? on this label)

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P201 - Obtain special instructions before use

P281 - Use personal protective equipment as required

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

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

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

2.3. Other information**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Chemical Name	EC-No	CAS-No	Alternate CAS #	Weight %	Classification according to Directive 67/548/EEC or 1999/45/EC	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
ETHYL ALCOHOL	200-578-6	64-17-5		10-15%	F; R11	Flam. Liq. 2 (H225) Eye Irrit. 1 (H319)	No data available
2-Butanone, 4-(4-hydroxyphenyl)-	Present	5471-51-2		5-10%	-	Acute Tox. 4 (H302) (EFFA)	No data available
ETHYL ACETATE	Present	141-78-6		1-5%	F; R11 Xi; R36 R66 R67	Eye Irrit. 1 (H319) (EFFA) Flam. Liq. 2 (H225) (EFFA) Eye Irrit. 1 (H319) (EUH066) Flam. Liq. 2 (H225) STOT SE 3 (H336) Eye Irrit. 2 (H319)	No data available
BENZYL ALCOHOL	202-859-9	100-51-6		1-5%	Xn; R20/22	Acute Tox. 5 (H333) Acute Tox. 4 (H302)	No data available
ACETALDEHYDE	200-836-8	75-07-0		1-5%	F+; R12 Xi; R36/37	Carc. 2 (H351) (EFFA) Eye Irrit. 1 (H319) (EFFA) Flam.	No data available

					Carc.Cat.3; R40	Liq. 1 (H224) (EFFA) Flam. Liq. 1 (H224) STOT SE 3 (H335) Carc. 2 (H351) Eye Irrit. 2 (H319)	
PROPYLENE GLYCOL	200-338-0	57-55-6		1-5%	-	No data available	No data available
BENZALDEHYDE	Present	100-52-7		1-5%	Xn; R22	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
TRANS-2-HEXENAL	229-778-1	6728-26-3		<1	-	Aquatic Acute 2 (H401) (EFFA) Skin Sens. 1 (H317) (EFFA) Skin Irrit. 3 (316) (EFFA) Aquatic Chronic 2 (H411) (EFFA) Acute Tox. 4 (H302) (EFFA) Acute Tox. 3 (H311)(EFFA) Flam. Liq. 3 (H226)(EFFA)	No data available
ISOBUTYL ACETATE	Present	110-19-0		<1	F; R11 R66	Aquatic Acute 3 (H402) (EFFA) Flam. Liq. 2 (H225) (EFFA) (EUH066) Flam. Liq. 2 (H225)	No data available
HEXANOL	Present	111-27-3		<1	Xn; R22	Acute Tox. 4 (H302) Aquatic Acute 3 (H402) (EFFA) Eye Irrit. 1 (H319) (EFFA) Skin Irrit. 3 (316) (EFFA) Acute Tox. 4 (H302) (EFFA) Acute Tox. 4 (H312)(EFFA) Flam. Liq. 3 (H226)(EFFA)	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
Hexenal (Aldehyde C-6)	200-624-5	66-25-1		<1	-	Eye Irrit. 1 (H319) (EFFA) Skin Irrit. 3 (316) (EFFA) Flam. Liq. 3 (H226)(EFFA)	No data available
DIMETHYL SULFIDE	200-846-2	75-18-3		<1	-	Skin Irrit. 3 (316) (EFFA) Acute Tox. 3 (H301) (EFFA) Flam. Liq. 2 (H225) (EFFA)	No data available
PINENES	201-291-9	80-56-8		<1	R10, XI; R43, N; R50/53, XN; R65;	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
LIMONENE	227-813-5	5989-27-5		<1	R10, XI; R38, XI; R43, N; R50/53;	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
BENZONITRILE	202-855-7	100-47-0		<1	XN; R21/22;	Acute Tox. 4 (H302) Acute Tox. 4 (H312)	No data available

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

4. FIRST AID MEASURES

4.1. Description of first aid measures

General advice	If symptoms persist, call a physician Do not breathe dust/fume/gas/mist/vapors/spray Do not get in eyes, on skin, or on clothing
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes Keep eye wide open while rinsing If symptoms persist, call a physician
Skin contact	Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Ingestion	Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting.
Inhalation	Move to fresh air. Call a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
Self-protection of the first aider	Use personal protective equipment

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

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

Note to physicians Treat symptomatically

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

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

Extinguishing media which shall not be used for safety reasons

No information available

5.2. Special hazards arising from the substance or mixture

Special Hazard

None

5.3. Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

See Section 12 for additional Ecological Information

6.2. Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust)

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid contact with skin, eyes and clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

7.3 Specific end use(s)

Exposure scenario N/A

Other Guidelines N/A

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

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	MAK: 500 ppm MAK: 960 mg/m ³ Ceiling / Peak: 1000 ppm Ceiling / Peak: 1920 mg/m ³ Skin TWA: 500 ppm TWA: 960 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	TWA: 400 ppm TWA: 1500 mg/m ³ Ceiling / Peak: 800 ppm Ceiling / Peak: 3000 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	TWA: 50 ppm TWA: 91 mg/m ³ Ceiling / Peak: 50 ppm Ceiling / Peak: 91 mg/m ³ Skin
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			
ISOBUTYL ACETATE 110-19-0		STEL: 187 ppm STEL: 903 mg/m ³ TWA: 150 ppm TWA: 724 mg/m ³	TWA: 150 ppm TWA: 710 mg/m ³ STEL: 200 ppm STEL: 940 mg/m ³	TWA: 150 ppm TWA: 724 mg/m ³	TWA: 100 ppm TWA: 480 mg/m ³ Ceiling / Peak: 200 ppm Ceiling / Peak: 960 mg/m ³ TWA: 62 ppm

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HEXANOL 111-27-3					TWA: 300 mg/m ³ TWA: 50 ppm TWA: 210 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	TWA: 20 ppm TWA: 73 mg/m ³ Ceiling / Peak: 80 ppm Ceiling / Peak: 292 mg/m ³
DIMETHYL SULFIDE 75-18-3				VLA-ED: 10 ppm	
PINENES 80-56-8				VLA-ED: 20 ppm VLA-ED: 113 mg/m ³	
LIMONENE 5989-27-5					MAK: 20 ppm MAK: 110 mg/m ³ Ceiling / Peak: 40 ppm Ceiling / Peak: 220 mg/m ³ TWA: 20 ppm TWA: 110 mg/m ³
BENZONITRILE 100-47-0		TWA: 5 mg/m ³ Skin	VME: 5 mg/m ³		MAK: 2 mg/m ³ Ceiling / Peak: 2 mg/m ³ Skin

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
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
BENZYL ALCOHOL 100-51-6				TWA: 10 ppm TWA: 45 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
BENZALDEHYDE 100-52-7				TWA: 1 ppm TWA: 4.4 mg/m ³ STEL: 4 ppm STEL: 17.4 mg/m ³ Ceiling: 4 ppm Ceiling: 17.4 mg/m ³	
ISOBUTYL ACETATE 110-19-0		TWA: 150 ppm		TWA: 150 ppm TWA: 720 mg/m ³ STEL: 200 ppm STEL: 960 mg/m ³	TWA: 150 ppm TWA: 710 mg/m ³
ISOAMYL ALCOHOL 123-51-3		STEL: 125 ppm TWA: 100 ppm		TWA: 100 ppm TWA: 370 mg/m ³ STEL: 150 ppm STEL: 550 mg/m ³	TWA: 100 ppm TWA: 360 mg/m ³
Hexenal (Aldehyde C-6) 66-25-1				STEL: 10 ppm STEL: 42 mg/m ³	
DIMETHYL SULFIDE 75-18-3		TWA: 10 ppm			
PINENES 80-56-8		TWA: 20 ppm			
LIMONENE 5989-27-5				TWA: 25 ppm TWA: 140 mg/m ³ STEL: 50 ppm STEL: 280 mg/m ³	
BENZONITRILE 100-47-0			Skin STEL: 10 mg/m ³ TWA: 1 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³ Skin	

Chemical Name	Austria	Sweden - Occupational	Switzerland	Poland	Norway
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		Exposure Limits - TLVs (LLVs)			
ETHYL ALCOHOL 64-17-5	STEL 2000 ppm 3800 mg/m ³ MAK: 1000 ppm 1900 mg/m ³	500 ppm NGV 1000 mg/m ³ NGV	STEL: 1000 ppm STEL: 1920 mg/m ³ MAK: 500 ppm 960 mg/m ³	NDS: 1900 mg/m ³	TWA: 500 ppm 950 mg/m ³ STEL: 625 ppm 1187.5 mg/m ³
ETHYL ACETATE 141-78-6	STEL 600 ppm 2100 mg/m ³ TWA: 300 ppm 1050 mg/m ³	150 ppm NGV 500 mg/m ³ NGV	STEL: 800 ppm 2800 mg/m ³ TWA: 400 ppm 1400 mg/m ³	STEL: 600 mg/m ³ TWA: 200 mg/m ³	TWA: 150 ppm 550 mg/m ³ STEL: 187.5 ppm 687.5 mg/m ³
BENZYL ALCOHOL 100-51-6				NDS: 240 mg/m ³	
ACETALDEHYDE 75-07-0	STEL 50 ppm 90 mg/m ³ TWA: 50 ppm 90 mg/m ³ Ceiling 50 ppm 90 mg/m ³	25 ppm NGV 45 mg/m ³ NGV	STEL: 50 ppm 90 mg/m ³ TWA: 90 mg/m ³ 50 ppm	: 45 mg/m ³ TWA: 5 mg/m ³	TWA: 25 ppm 45 mg/m ³ STEL: 37.5 ppm 67.5 mg/m ³
PROPYLENE GLYCOL 57-55-6					TWA: 25 ppm 79 mg/m ³ STEL: 37.5 ppm 118.5 mg/m ³
BENZALDEHYDE 100-52-7				STEL: 40 mg/m ³ TWA: 10 mg/m ³	
ISOBUTYL ACETATE 110-19-0	STEL 100 ppm 480 mg/m ³ TWA: 100 ppm 480 mg/m ³ Ceiling 100 ppm 480 mg/m ³	100 ppm NGV 500 mg/m ³ NGV	STEL: 200 ppm 960 mg/m ³ TWA: 100 ppm 480 mg/m ³	STEL: 400 mg/m ³ TWA: 200 mg/m ³	
ISOAMYL ALCOHOL 123-51-3	STEL 200 ppm 720 mg/m ³ TWA: 100 ppm 360 mg/m ³		STEL: 80 ppm 292 mg/m ³ TWA: 20 ppm 73 mg/m ³	STEL: 400 mg/m ³ TWA: 200 mg/m ³	TWA: 50 ppm 180 mg/m ³ STEL: 75 ppm 225 mg/m ³
Hexenal (Aldehyde C-6) 66-25-1				NDSch: 80 mg/m ³ NDS: 40 mg/m ³	
DIMETHYL SULFIDE 75-18-3		1 ppm NGV			
PINENES 80-56-8		25 ppm NGV 150 mg/m ³ NGV			TWA: 25 ppm 140 mg/m ³ Skin STEL: 37.5 ppm 175 mg/m ³
LIMONENE 5989-27-5			STEL: 40 ppm 220 mg/m ³ MAK: 20 ppm 110 mg/m ³		TWA: 25 ppm 140 mg/m ³ STEL: 37.5 ppm 175 mg/m ³
BENZONITRILE 100-47-0					TWA: 5 mg/m ³ Skin STEL: 10 mg/m ³

Component	Ireland
ETHYL ALCOHOL 64-17-5 (10-15%)	TWA: 1000 ppm TWA: 1900 mg/m ³
ETHYL ACETATE 141-78-6 (1-5%)	TWA: 200 ppm STEL: 400 ppm
ACETALDEHYDE 75-07-0 (1-5%)	TWA: 25 ppm TWA: 45 mg/m ³ STEL: 25 ppm STEL: 45 mg/m ³
PROPYLENE GLYCOL 57-55-6 (1-5%)	TWA: 150 ppm TWA: 470 mg/m ³ TWA: 10 mg/m ³
ISOBUTYL ACETATE 110-19-0 (<1)	TWA: 150 ppm TWA: 700 mg/m ³ STEL: 187 ppm STEL: 875 mg/m ³
ISOAMYL ALCOHOL 123-51-3 (<1)	TWA: 100 ppm TWA: 360 mg/m ³ STEL: 125 ppm STEL: 450 mg/m ³
DIMETHYL SULFIDE	TWA: 20 ppm

75-18-3 (<1)	
BENZONITRILE 100-47-0 (<1)	TWA: 5 mg/m ³ Skin

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 Protection** Tightly fitting safety goggles
- Hand Protection** Protective gloves
- Skin and body protection** Long sleeved clothing
- Respiratory protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls Do not allow material to contaminate ground water system

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	liquid	Appearance	clear
Odor	raspberry	Color	light 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		No information available	
Upper flammability limit			
lower flammability limit			
Vapor pressure mm Hg 20°C		No information available	
Vapor density		No information available	
Relative density		No information available	
Specific Gravity @ 25C	0.975 - 1.005	FCC Method	
Specific Gravity @ 20C	0.978 - 1.008	FCC Method	
Refractive Index	1.4231 - 1.4531	FCC Method	
Water solubility		No information available	
Partition coefficient: n-octanol/water		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity, dynamic		No information available	
Explosive properties	No information available		
Oxidizing Properties	No information available		

9.2. Other information

VOC Content(%)	31.4725
Molecular Weight	No information available

10. STABILITY AND REACTIVITY

10.1. Reactivity

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Heat, flames and sparks

10.5. Incompatible materials

No materials to be especially mentioned

10.6. Hazardous decomposition products

None under normal use conditions

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

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

Acute toxicity 3.298204% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document (Rev. 1, 2005):

Oral 2,491.00 mg/kg

Dermal 4,952.00 mg/kg

Inhalation

Mist 1.00 mg/l

Vapor 183.00 mg/l

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

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

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants

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

ETHYL ACETATE	3300: 48 h <i>Desmodesmus subspicatus</i> mg/L EC50	220 - 250: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 484: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 352 - 500: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 semi-static	560: 48 h <i>Daphnia magna</i> mg/L EC50 Static
BENZYL ALCOHOL	35: 3 h <i>Anabaena variabilis</i> mg/L EC50	10: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 460: 96 h <i>Pimephales promelas</i> mg/L LC50 static	23: 48 h water flea 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
PROPYLENE GLYCOL	19000: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50	51600: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 41 - 47: 96 h <i>Oncorhynchus mykiss</i> mL/L LC50 static 51400: 96 h <i>Pimephales promelas</i> mg/L LC50 static 710: 96 h <i>Pimephales promelas</i> mg/L LC50	10000: 24 h <i>Daphnia magna</i> mg/L EC50 1000: 48 h <i>Daphnia magna</i> mg/L EC50 Static
BENZALDEHYDE		10.6 - 11.8: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 12.69: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 0.8 - 1.44: 96 h <i>Lepomis macrochirus</i> mg/L LC50 flow-through 6.8 - 8.53: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 7.5: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static	50: 24 h <i>Daphnia magna</i> mg/L EC50
ISOBUTYL ACETATE		101: 48 h <i>Leuciscus idus melanotus</i> mg/L LC50 static 101 - 123: 48 h <i>Leuciscus idus melanotus</i> mg/L LC50 flow-through	168: 24 h <i>Daphnia magna</i> mg/L EC50
HEXANOL		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	
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
Hexenal (Aldehyde C-6)		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
PINENES		0.28: 96 h <i>Pimephales promelas</i> mg/L LC50 static	41: 48 h <i>Daphnia magna</i> mg/L LC50
LIMONENE		0.619-0.796: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 35: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50	
BENZONITRILE	231: 6 h <i>Chlorella vulgaris</i> mg/L EC50	130: 96 h <i>Brachydanio rerio</i> mg/L LC50 400: 96 h <i>Poecilia reticulata</i> mg/L LC50 static 64: 96 h <i>Pimephales promelas</i> mg/L LC50 78: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 78: 96 h <i>Pimephales promelas</i> mg/L LC50 static	122: 24 h <i>Daphnia magna</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
ETHYL ACETATE	0.6
BENZYL ALCOHOL	1.1
ACETALDEHYDE	0.5
BENZALDEHYDE	1.48
ISOBUTYL ACETATE	1.72
HEXANOL	2.03
ISOAMYL ALCOHOL	1.28
PINENES	4.1
BENZONITRILE	1.5

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment**12.6. Other adverse effects**

Endocrine Disruptor Information .? is a suspected endocrine disruptor

13. DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues / unused products**

Dispose of in accordance with local regulations

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal

Other Information

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific Waste codes should be assigned by the user based on the application for which the product was used

14. TRANSPORT INFORMATION**DOT/ADR**

UN/ID No	1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S. (ACETALDEHYDE, ETHYL ACETATE)
Hazard class	3
Packing Group	III
ERG Code	128

IMDG / IMO

Proper shipping name	FLAMMABLE LIQUID, N.O.S. (ACETALDEHYDE, ETHYL ACETATE)
Hazard class	3
UN/ID No	1993
Packing Group	III

ICAO/IATA

UN/ID No	1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S. (ACETALDEHYDE, ETHYL ACETATE)
Hazard class	3
Packing Group	III

15. REGULATORY INFORMATION

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

WGK Classification

Chemical Name	Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes
ETHYL ALCOHOL 64-17-5	Hazard Class 1
ETHYL ACETATE 141-78-6	Hazard Class 1
BENZYL ALCOHOL 100-51-6	Hazard Class 1
ACETALDEHYDE 75-07-0	Hazard Class 1
PROPYLENE GLYCOL 57-55-6	Hazard Class 1
BENZALDEHYDE 100-52-7	Hazard Class 2
ISOBUTYL ACETATE 110-19-0	Hazard Class 1
HEXANOL 111-27-3	Hazard Class 1
ISOAMYL ALCOHOL 123-51-3	Hazard Class 1
Hexenal (Aldehyde C-6) 66-25-1	Hazard Class 1
BENZONITRILE 100-47-0	Hazard Class 2

International Inventories

All of the components in the product are on the following Inventory lists: No information available.

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

Legend

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

15.2. Chemical safety assessment

16. OTHER INFORMATION

Risk Combination Phrases

R20/22 - Harmful by inhalation and if swallowed
 R36/37 - Irritating to eyes and respiratory system

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed H312 - Harmful in contact with skin H333 - May be harmful if inhaled H401 - Toxic to aquatic life H319 - Causes serious eye irritation H227 - Combustible liquid H332 - Harmful if inhaled H316 - Causes mild skin irritation H402 - Harmful to aquatic life H225 - Highly flammable liquid and vapor H226 - 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 H411 - Toxic to aquatic life with long lasting effects H311 - Toxic in contact with skin H351 - Suspected of causing cancer if inhaled H224 - Extremely flammable liquid and vapor H335 - May cause respiratory irritation H301 - Toxic if swallowed H303 - May be harmful if swallowed EUH066 - Repeated exposure may cause skin dryness or cracking

Revision Date 03-Jan-2019
Revision Note Not applicable.
Revision# 1

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.

Disclaimer

Food ingredients that are safe to be consumed in food products may pose hazards if not handled properly. This product is intended to be used in food products and, not intended to be consumed in its present form. The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.