



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

1.1. Product identifier

Number 433BEV

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

Product name PRICKLY PEAR TYPE, NATURAL FLAVOR BLEND
Pure substance/mixture Mixture

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

Recommended Use No information available

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

Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A
Acute aquatic toxicity	Category 2
Flammable liquids	Category 2

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)
Not dangerous

2.2. Label elements

**Signal Word**

Danger

Hazard Statements

H319 - Causes serious eye irritation

H350 - May cause cancer

H401 - Toxic to aquatic life

Precautionary Statements

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		50-90%	F; R11	Flam. Liq. 2 (H225) Flam. Liq. 2 (H225)	No data available
GLYCERINE	Present	56-81-5		5-10%	-	No data available	No data available
PROPYLENE GLYCOL	200-338-0	57-55-6		<1	-	No data available	No data available
ACETIC ACID	200-580-7	64-19-7		<1	R10 C; R35	Skin Corr. 1A (314) Eye Dam. 1 (H318) Flam. Liq. 3 (H226)	No data available
BENZYL ALCOHOL	202-859-9	100-51-6		<1	Xn; R20/22	Acute Tox. 5 (H333) Acute Tox. 4 (H302)	No data available
ISOAMYL ACETATE	Present	123-92-2		<1	R10 R66	Aquatic Acute 3 (H402) (EFFA) (EUH066) Flam. Liq. 3 (H226)	No data available
PROPIONIC ACID	201-176-3	79-09-4		<1	C; R34	Skin Corr. 1B (314) (EFFA) Eye Dam. 1 (H318) (EFFA) Acute Tox. 5 (H303)(EFFA) Flam. Liq. 3 (H226)(EFFA) Skin Corr. 1B (H314) Eye	No data available

ACETALDEHYDE	200-836-8	75-07-0		<1	F+; R12 Xi; R36/37 Carc.Cat.3; R40	Dam. 1 (H318) Carc. 2 (H351) (EFFA) Eye Irrit. 1 (H319) (EFFA) Flam. Liq. 1 (H224) (EFFA) Flam. Liq. 1 (H224) STOT SE 3 (H335) Carc. 2 (H351) Eye Irrit. 2 (H319)	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
ISOAMYL ALCOHOL	204-633-5	123-51-3		<1	-	Flam. Liq. 3 (H226)(EFFA) Acute Tox. 4 (H332)(EFFA)	No data available
HEXYL ALCOHOL	Present	111-27-3		<1	Xn; R22	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) Acute Tox. 4 (H302)	No data available
FURFURAL	Present	98-01-1		<1	Xn; R21 T; R23/25 Xi; R36/37/38 Carc.Cat.3; R40	Acute Tox. 3 (H301) Carc. 2 (H351) (EFFA) Eye Irrit. 1 (H319) (EFFA) Skin Irrit. 2 (315) (EFFA) Acute Tox. 3 (H301) (EFFA) Acute Tox. 4 (H312)(EFFA) Flam. Liq. 4 (H227)(EFFA) Acute Tox. 3 (H331)(EFFA) Carc. 2 (H351) Eye Irrit. 1 (H319) Skin Irrit. 2 (H315) Acute Tox. 3 (H301) Acute Tox. 4 (H312) Acute Tox. 3 (H331) Acute Tox. 4 (H312) Skin Irrit. 2 (H315) STOT SE 3 (H335) Carc. 2 (H351) Acute Tox. 3 (H331) Eye Irrit. 2 (H319)	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
METHYL N-AMYL KETONE FCC (2-Heptanone)	Present	110-43-0		<1	R10 Xn; R20/22	Acute Tox. 4 (H302) Acute Tox. 4 (H302) (EFFA) Flam. Liq. 3 (H226)(EFFA) Acute Tox. 4 (H332)(EFFA) Flam. Liq. 3 (H226) Acute Tox. 4 (H332)	No data available
BENZYL ALCOHOL	202-859-9	100-51-6		<1	Xn; R20/22	Acute Tox. 5 (H333) Acute Tox. 4 (H302)	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. 2 (H316) Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410) Flam. Liq. 3 (H226)	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. 3 (H316) Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410) Acute Tox. 5 (H303) Flam. Liq. 3 (H226)	No data available
BENZONITRILE	202-855-7	100-47-0		<1	XN; R21/22;	Acute Tox. 4 (H302)	No data available

						Acute Tox. 4 (H312)	
--	--	--	--	--	--	---------------------	--

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

Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Inhalation	Move to fresh air.

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

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

Ensure adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

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
GLYCERINE 56-81-5		STEL: 30 mg/m ³ TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 50 mg/m ³ Ceiling / Peak: 100 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			
ACETIC ACID 64-19-7	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	MAK: 10 ppm MAK: 25 mg/m ³ Ceiling / Peak: 20 ppm Ceiling / Peak: 50 mg/m ³ TWA: 10 ppm TWA: 25 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	TWA: 50 ppm TWA: 270 mg/m ³ Ceiling / Peak: 50 ppm Ceiling / Peak: 270 mg/m ³
PROPIONIC ACID 79-09-4	TWA 10 ppm TWA 31 mg/m ³ STEL 20 ppm STEL 62 mg/m ³	STEL: 15 ppm STEL: 46 mg/m ³ TWA: 10 ppm TWA: 31 mg/m ³	TWA: 10 ppm TWA: 31 mg/m ³ STEL: 20 ppm STEL: 62 mg/m ³	STEL: 20 ppm STEL: 62 mg/m ³ TWA: 10 ppm TWA: 31 mg/m ³	TWA: 10 ppm TWA: 31 mg/m ³ Ceiling / Peak: 20 ppm Ceiling / Peak: 62 mg/m ³
ACETALDEHYDE 75-07-0		STEL: 50 ppm STEL: 92 mg/m ³ TWA: 20 ppm TWA:	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

		37 mg/m ³			Ceiling / Peak: 91 mg/m ³ Skin
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 TWA: 300 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
HEXYL ALCOHOL 111-27-3					TWA: 50 ppm TWA: 210 mg/m ³
FURFURAL 98-01-1		STEL: 5 ppm STEL: 20 mg/m ³ TWA: 2 ppm TWA: 8 mg/m ³ Skin	STEL: 2 ppm STEL: 8 mg/m ³	S* TWA: 2 ppm TWA: 8 mg/m ³	Skin
METHYL N-AMYL KETONE FCC (2-Heptanone) 110-43-0	S* TWA 50 ppm TWA 238 mg/m ³ STEL 100 ppm STEL 475 mg/m ³	STEL: 100 ppm STEL: 475 mg/m ³ TWA: 50 ppm TWA: 237 mg/m ³ Skin	TWA: 50 ppm TWA: 238 mg/m ³ STEL: 100 ppm STEL: 475 mg/m ³	S* STEL: 100 ppm STEL: 474 mg/m ³ TWA: 50 ppm TWA: 237 mg/m ³	TWA: 238 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
PINENES 80-56-8				VLA-ED: 20 ppm VLA-ED: 113 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
GLYCERINE 56-81-5		TWA: 10 mg/m ³		TWA: 20 mg/m ³	
ACETIC ACID 64-19-7		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
BENZYL ALCOHOL 100-51-6				TWA: 10 ppm TWA: 45 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
PROPIONIC ACID 79-09-4	TWA: 10 ppm TWA: 31 mg/m ³ STEL: 20 ppm STEL: 62 mg/m ³	STEL: 20 ppm STEL: 62 mg/m ³ TWA: 10 ppm TWA: 31 mg/m ³	STEL: 62 mg/m ³ TWA: 31 mg/m ³	TWA: 10 ppm TWA: 31 mg/m ³ STEL: 20 ppm STEL: 61 mg/m ³	TWA: 10 ppm TWA: 31 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
ISOBUTYL ACETATE 110-19-0		TWA: 150 ppm		TWA: 150 ppm TWA: 720 mg/m ³	TWA: 150 ppm TWA: 710 mg/m ³

				STEL: 200 ppm STEL: 960 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
FURFURAL 98-01-1		TWA: 2 ppm		TWA: 2 ppm TWA: 8 mg/m ³ STEL: 5 ppm STEL: 20 mg/m ³ Skin	TWA: 2 ppm TWA: 7.9 mg/m ³ Skin
Hexenal (Aldehyde C-6) 66-25-1				STEL: 10 ppm STEL: 42 mg/m ³	
METHYL N-AMYL KETONE FCC (2-Heptanone) 110-43-0	TWA: 50 ppm TWA: 238 mg/m ³ STEL: 100 ppm STEL: 475 mg/m ³ Skin	TWA: 50 ppm	TWA: 233 mg/m ³	TWA: 50 ppm TWA: 240 mg/m ³ STEL: 75 ppm STEL: 360 mg/m ³ Skin	TWA: 50 ppm TWA: 238 mg/m ³ Skin
BENZYL ALCOHOL 100-51-6				TWA: 10 ppm TWA: 45 mg/m ³	
LIMONENE 5989-27-5				TWA: 25 ppm TWA: 140 mg/m ³ STEL: 50 ppm STEL: 280 mg/m ³	
PINENES 80-56-8		TWA: 20 ppm			
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 Exposure Limits - TLVs (LLVs)	Switzerland	Poland	Norway
ETHYL ALCOHOL 64-17-5	STEL 2000 ppm STEL 3800 mg/m ³ MAK: 1000 ppm MAK: 1900 mg/m ³	500 ppm NGV 1000 mg/m ³ NGV	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
GLYCERINE 56-81-5			STEL: 100 mg/m ³ TWA: 50 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
ACETIC ACID 64-19-7	STEL 20 ppm STEL 50 mg/m ³ MAK: 10 ppm MAK: 25 mg/m ³	5 ppm NGV 13 mg/m ³ NGV	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
BENZYL ALCOHOL 100-51-6				NDS: 240 mg/m ³	
ISOAMYL ACETATE 123-92-2	STEL 100 ppm STEL 540 mg/m ³ TWA: 50 ppm TWA: 270 mg/m ³	50 ppm NGV 270 mg/m ³ NGV	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
PROPIONIC ACID 79-09-4	STEL 20 ppm STEL 62 mg/m ³ TWA: 10 ppm TWA: 31 mg/m ³	10 ppm NGV 30 mg/m ³ NGV	STEL: 20 ppm STEL: 60 mg/m ³ TWA: 10 ppm TWA: 30 mg/m ³	STEL: 45 mg/m ³ TWA: 30 mg/m ³	TWA: 10 ppm TWA: 30 mg/m ³ STEL: 20 ppm STEL: 45 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	25 ppm NGV 45 mg/m ³ NGV	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
ISOBUTYL ACETATE 110-19-0	STEL 100 ppm STEL 480 mg/m ³ TWA: 100 ppm	100 ppm NGV 500 mg/m ³ NGV	STEL: 200 ppm STEL: 960 mg/m ³ TWA: 100 ppm	STEL: 400 mg/m ³ TWA: 200 mg/m ³	

	TWA: 480 mg/m ³ Ceiling 100 ppm Ceiling 480 mg/m ³		TWA: 480 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
FURFURAL 98-01-1	Skin TWA: 5 ppm TWA: 20 mg/m ³	2 ppm NGV 8 mg/m ³ NGV	Skin TWA: 2 ppm TWA: 8 mg/m ³	STEL: 25 mg/m ³ TWA: 10 mg/m ³	TWA: 2 ppm TWA: 8 mg/m ³ Skin STEL: 4 ppm STEL: 16 mg/m ³
Hexenal (Aldehyde C-6) 66-25-1				NDSch: 80 mg/m ³ NDS: 40 mg/m ³	
METHYL N-AMYL KETONE FCC (2-Heptanone) 110-43-0	Skin STEL 100 ppm STEL 473 mg/m ³ TWA: 50 ppm TWA: 237 mg/m ³	25 ppm NGV 120 mg/m ³ NGV	TWA: 50 ppm TWA: 235 mg/m ³	STEL: 475 mg/m ³ TWA: 238 mg/m ³	TWA: 25 ppm TWA: 115 mg/m ³ Skin STEL: 37.5 ppm STEL: 143.75 mg/m ³
BENZYL ALCOHOL 100-51-6				NDS: 240 mg/m ³	
LIMONENE 5989-27-5			STEL: 40 ppm STEL: 220 mg/m ³ MAK: 20 ppm MAK: 110 mg/m ³		TWA: 25 ppm TWA: 140 mg/m ³ STEL: 37.5 ppm STEL: 175 mg/m ³
PINENES 80-56-8		25 ppm NGV 150 mg/m ³ NGV			TWA: 25 ppm TWA: 140 mg/m ³ Skin STEL: 37.5 ppm STEL: 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 (50-90%)	TWA: 1000 ppm TWA: 1900 mg/m ³
GLYCERINE 56-81-5 (5-10%)	TWA: 10 mg/m ³
PROPYLENE GLYCOL 57-55-6 (<1)	TWA: 150 ppm TWA: 470 mg/m ³ TWA: 10 mg/m ³
ACETIC ACID 64-19-7 (<1)	TWA: 10 ppm TWA: 25 mg/m ³ STEL: 15 ppm STEL: 37 mg/m ³
ISOAMYL ACETATE 123-92-2 (<1)	TWA: 50 ppm TWA: 260 mg/m ³ STEL: 100 ppm STEL: 520 mg/m ³
PROPIONIC ACID 79-09-4 (<1)	TWA: 10 ppm TWA: 31 mg/m ³ STEL: 20 ppm STEL: 62 mg/m ³
ACETALDEHYDE 75-07-0 (<1)	TWA: 25 ppm TWA: 45 mg/m ³ STEL: 25 ppm STEL: 45 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
FURFURAL 98-01-1 (<1)	TWA: 2 ppm TWA: 8 mg/m ³ STEL: 5 ppm STEL: 20 mg/m ³ Skin
METHYL N-AMYL KETONE FCC (2-Heptanone) 110-43-0 (<1)	TWA: 50 ppm TWA: 238 mg/m ³ STEL: 100 ppm STEL: 475 mg/m ³ Skin

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 No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	liquid	Appearance	clear
Odor	fruity Melon	Color	light yellow
Property	Values	Method	
pH		No information available	
Melting/freezing point		No information available	
Boiling point/boiling range		FCC Method	
Flash Point	21 °C / 69 °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	0.8607 - 0.8907	FCC Method	
Specific Gravity @ 20C	0.8637 - 0.8937	FCC Method	
Refractive Index	1.3614 - 1.3914	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(%)	84.01567
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	11.73795197% 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	7,685.00 mg/kg
Dermal	80,810.00 mg/kg

<u>Inhalation</u> Mist	21.86 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
GLYCERINE		51 - 57: 96 h Oncorhynchus mykiss	500: 24 h Daphnia magna mg/L

		mL/L LC50 static	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
ACETIC ACID		75: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 79: 96 h <i>Pimephales promelas</i> mg/L LC50 static	47: 24 h <i>Daphnia magna</i> mg/L EC50 65: 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
PROPIONIC ACID	45.8: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50 43: 96 h <i>Desmodesmus subspicatus</i> mg/L EC50	1: 96 h <i>Pimephales promelas</i> mg/L LC50 static 73 - 99.7: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 51: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static	
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
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
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
HEXYL ALCOHOL		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
FURFURAL		13.4 - 19.3: 96 h <i>Pimephales promelas</i> mg/L LC50 static 16.79 - 26.35: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through	29: 24 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	
METHYL N-AMYL KETONE FCC (2-Heptanone)		126 - 137: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through	
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
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	
PINENES		0.28: 96 h <i>Pimephales promelas</i> mg/L LC50 static	41: 48 h <i>Daphnia magna</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
GLYCERINE	-1.76
ACETIC ACID	-0.31
BENZYL ALCOHOL	1.1
PROPIONIC ACID	0.33
ACETALDEHYDE	0.5
ISOBUTYL ACETATE	1.72
ISOAMYL ALCOHOL	1.28
HEXYL ALCOHOL	2.03
FURFURAL	0.67
METHYL N-AMYL KETONE FCC (2-Heptanone)	1.98
BENZYL ALCOHOL	1.1
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

Chemical Name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
FURFURAL	Group III Chemical		

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

14. TRANSPORT INFORMATION

DOT

UN/ID No	1197
Proper shipping name	EXTRACTS, FLAVOURING, LIQUID
Hazard class	3
Packing Group	II
ERG Code	127

IMDG / IMO

Proper shipping name	EXTRACTS, FLAVOURING, LIQUID
Hazard class	3
UN/ID No	1197
Packing Group	II

ICAO/IATA

UN/ID No	1197
Proper shipping name	EXTRACTS, FLAVOURING, LIQUID
Hazard class	3
Packing Group	II
ERG Code	127

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
GLYCERINE 56-81-5	Hazard Class 1
PROPYLENE GLYCOL 57-55-6	Hazard Class 1
ACETIC ACID 64-19-7	Hazard Class 1
BENZYL ALCOHOL 100-51-6	Hazard Class 1
ISOAMYL ACETATE 123-92-2	Hazard Class 1
PROPIONIC ACID 79-09-4	Hazard Class 1
ACETALDEHYDE 75-07-0	Hazard Class 1
ISOBUTYL ACETATE 110-19-0	Hazard Class 1
ISOAMYL ALCOHOL 123-51-3	Hazard Class 1
HEXYL ALCOHOL 111-27-3	Hazard Class 1
FURFURAL 98-01-1	Hazard Class 2
Hexenal (Aldehyde C-6) 66-25-1	Hazard Class 1
BENZYL ALCOHOL 100-51-6	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

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 H402 - Harmful to aquatic life H225 - Highly flammable liquid and vapor H226 - Flammable liquid and vapor H332 - Harmful if inhaled H319 - Causes serious eye irritation H400 - Very toxic to aquatic life H317 - May cause an allergic skin reaction H316 - Causes mild skin irritation H304 - May be fatal if swallowed and enters airways H410 - Very toxic to aquatic life with long lasting effects H318 - Causes serious eye damage H351 - Suspected of causing cancer if inhaled H224 - Extremely flammable liquid and vapor H335 - May cause respiratory irritation H303 - May be harmful if swallowed H314 - Causes severe skin burns and eye damage H301 - Toxic if swallowed H227 - Combustible liquid H331 - Toxic if inhaled H315 - Causes skin irritation EUH066 - Repeated exposure may cause skin dryness or cracking

Revision Date	08-Aug-2016
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

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.