APEX FLAVORS, INC.

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 14-Jun-2018 **Version** 1

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

1.1. Product identifier

Product Code(s) 336BEV
Product name LEMON ITALIAN EXTRACT, NATURAL (PRIMO FIORE VARIETAL)

Pure substance/mixture Mixture
Contains LIMONENE, 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

Serious eye damage/eye irritation	Category 2 - (H319)
Skin sensitization	Category 1 - (H317)
Carcinogenicity	Category 1A - (H350)
Chronic aquatic toxicity	Category 3 - (H412)
Flammable liquids	Category 3 - (H226)

2.2. Label elements

Product identifier
Contains LIMONENE, ETHYL ALCOHOL

Signal Word
Danger

Hazard Statements
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H350 - May cause cancer
H412 - Harmful to aquatic life with long lasting effects
H226 - Flammable liquid and vapor
Contains CITRAL EUH208 - May produce an allergic reaction

Precautionary Statements - EU (§28, 1272/2008)
P280 - Wear eye protection/ face protection
P321 - Specific treatment (see .? on this label)
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
ETHYL ALCOHOL	200-578-6	64-17-5	50-90%	Flam. Liq. 2 (H225) Eye Irrit. 1 (H319)	No data available
LIMONENE	227-813-5	5989-27-5	1-5%	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
CITRAL	226-394-6	5392-40-5	<1%	Aquatic Acute 2 (H401) Sens. 1 (H317) Skin Irrit. 2 (H315) Acute Tox. 5 (H313) Flam. Liq. 4 (H227)	No data available
MYRCENE	204-622-5	123-35-3	<1%	Eye Irrit. 1 (H319) (EFFA) Skin Irrit. 2 (315) (EFFA) Asp. Tox. 1 (H304) (EFFA) Eye Irrit. 1 (H319) Skin Irrit. 2	No data available

				(H315)	

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

Inhalation Move to fresh air. If symptoms persist, call a physician.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Ingestion Do NOT induce vomiting. Drink plenty of water. Immediate medical attention is not required. Rinse mouth.

Self-protection of the first aider Use personal protective equipment.

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 May cause sensitization in susceptible persons.

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 In the event of fire and/or explosion do not breathe fumes May cause sensitization in susceptible persons

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
Use personal protective equipment. Avoid contact with eyes and skin.

For emergency responders
Use personal protection recommended in Section 8.

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

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

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. Use personal protective equipment as required.

General Hygiene Considerations
When using, do not eat, drink or smoke. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, well-ventilated place.

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/m³ TWA: 1000 ppm TWA: 1920 mg/m³	VME: 1000 ppm VME: 1900 mg/m³ VLCT: 5000 ppm VLCT: 9500 mg/m³	VLA-ED: 1000 ppm VLA-ED: 1910 mg/m³	-
PINENES 80-56-8	-	-	-	VLA-ED: 20 ppm VLA-ED: 113 mg/m³	-
MYRCENE 123-35-3	-	-	TWA: 1000 mg/m³ STEL: 1500 mg/m³	-	-
Chemical Name	**Italy**	**Portugal**	**The Netherlands**	**Finland**	**Denmark**
ETHYL ALCOHOL 64-17-5	-	TWA: 1000 ppm	Skin STEL: 1900 mg/m³ TWA: 260 mg/m³	TWA: 1000 ppm TWA: 1900 mg/m³ STEL: 1300 ppm STEL: 2500 mg/m³	TWA: 1000 ppm TWA: 1900 mg/m³
LIMONENE 5989-27-5	-	-	-	TWA: 25 ppm TWA: 140 mg/m³ STEL: 50 ppm STEL: 280 mg/m³	-
PINENES	-	TWA: 20 ppm	-	-	-

80-56-8					
Chemical Name	**Austria**	**Switzerland**	**Poland**	**Norway**	**Ireland**
ETHYL ALCOHOL 64-17-5	STEL 2000 ppm STEL 3800 mg/m³ MAK: 1000 ppm MAK: 1900 mg/m³	STEL: 1000 ppm STEL: 1920 mg/m³ MAK: 500 ppm MAK: 960 mg/m³	NDS: 1900 mg/m³	TWA: 500 ppm TWA: 950 mg/m³ STEL: 625 ppm STEL: 1187.5 mg/m³	TWA: 1000 ppm TWA: 1900 mg/m³
LIMONENE 5989-27-5	-	STEL: 40 ppm STEL: 220 mg/m³ MAK: 20 ppm MAK: 110 mg/m³	-	TWA: 25 ppm TWA: 140 mg/m³ STEL: 37.5 ppm STEL: 175 mg/m³	-
PINENES 80-56-8	-	-	-	TWA: 25 ppm TWA: 140 mg/m³ Skin STEL: 37.5 ppm STEL: 175 mg/m³	-
MYRCENE 123-35-3	-	-	-	TWA: 40 ppm TWA: 275 mg/m³ STEL: 60 ppm STEL: 343.75 mg/m³	-

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 Long sleeved clothing.

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

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state liquid
Appearance clear
Odor Characteristic of lemon
Color Slightly yellow

Property	**Values**	**• Method**
pH		No information available
Melting/freezing point		No information available
Boiling point/boiling range		FCC Method
Flash Point	24 °C / 75 °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	0.8992 - 0.9292	FCC Method
Specific Gravity @ 20C	0.9022 - 0.9322	FCC Method
Refractive Index	1.3489 - 1.3789	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

None known.

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) 7,041.00 mg/kg
ATEmix (dermal) 2,952.00 mg/kg
ATEmix (inhalation-dust/mist) 66,892.66 mg/l

Unknown Acute Toxicity

99.3671% of the mixture consists of ingredient(s) of unknown toxicity.
38.0369 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
98.0369 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
99.3671 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
99.3671 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
39.3671 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Chemical Name	Oral LD50	Dermal LD50	LC50 Inhalation
ETHYL ALCOHOL	7060 mg/kg (Rat)		124.7 mg/L (Rat) 4 h
LIMONENE	4400 mg/kg (Rat)	2000 mg/kg (Rabbit)	
PINENES	2100 mg/kg (Rat)	5000 mg/kg (Rat)	
CITRAL	4950 mg/kg (Rat)	2250 mg/kg (Rabbit) 2000 mg/kg (Rat)	

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, Liver, Reproductive system, Respiratory system, Skin.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

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

38.0538% of the mixture consists of components(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
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
CITRAL	16: 72 h Desmodesmus subspicatus mg/L EC50 19: 96 h Desmodesmus subspicatus mg/L EC50	4.6-10: 96 h Leuciscus idus mg/L LC50 static	7: 48 h Daphnia magna 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
PINENES	4.1
CITRAL	2.76

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.

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.

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
R43 - May cause sensitization by skin contact
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under section 3
H319 - Causes serious eye irritation
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H401 - Toxic to aquatic life
H317 - May cause an allergic skin reaction
H313 - May be harmful in contact with skin
H227 - Combustible liquid
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H226 - Flammable liquid and vapor
H225 - Highly flammable liquid and vapor
H303 - May be harmful if swallowed

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 14-Jun-2018

Reason for revision: Not applicable.

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