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 24-Nov-2025 Version 2

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

1.1. Product identifier

Product Code(s) 582BEV, 582TTB, 582PGF, 582PGFT, 582COF, 528ICR **Product name** Mandarin Italian Extract, Natural (Tardivo Di Ciaculli Varietal)

Pure substance/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.

1361 Brass Mill Rd Suite E 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/ Outside US Chemtel 813-248-0585

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

NEGGE, (11611 (EG) NG 1272/2000	
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

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

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 aiderUse 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	-	STEL: 3000 ppm	VME: 1000 ppm VME:	VLA-ED: 1000 ppm	-
64-17-5		STEL: 5760 mg/m ³	1900 mg/m ³	VLA-ED: 1910 mg/m ³	
		TWA: 1000 ppm TWA:	VLCT: 5000 ppm		
		1920 mg/m ³	VLCT: 9500 mg/m ³		
Chemical Name	Italy	Portugal	The Netherlands	Finland	Denmark
ETHYL ALCOHOL	-	TWA: 1000 ppm	Skin	TWA: 1000 ppm TWA:	TWA: 1000 ppm TWA:
64-17-5			STEL: 1900 mg/m ³	1900 mg/m ³	1900 mg/m ³
			TWA: 260 mg/m ³	STEL: 1300 ppm	-
			•	STEL: 2500 mg/m ³	
LIMONENE	-	-	-	TWA: 25 ppm TWA:	-
5989-27-5				140 mg/m ³	
				STEL: 50 ppm STEL:	
				280 mg/m ³	
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
ETHYL ALCOHOL	STEL 2000 ppm STEL	STEL: 1000 ppm	NDS: 1900 mg/m ³	TWA: 500 ppm TWA:	TWA: 1000 ppm TWA:
64-17-5	3800 mg/m ³	STEL: 1920 mg/m ³		950 mg/m ³	1900 mg/m ³
	MAK: 1000 ppm MAK:	MAK: 500 ppm MAK:		STEL: 625 ppm STEL:	-
	1900 mg/m ³	960 mg/m ³		1187.5 mg/m ³	
LIMONENE	-	STEL: 40 ppm STEL:	-	TWA: 25 ppm TWA:	-
5989-27-5		220 mg/m ³		140 mg/m ³	
		MAK: 20 ppm MAK:		STEL: 37.5 ppm	
		110 mg/m ³		STEL: 175 mg/m ³	

Derived No Effect Level (DNEL)No information available.

Predicted No Effect Concentration No information available.

(PNEC)

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.

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

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state liauid **Appearance** clear Odor mandarin Color yellow

Property Values Method

No information available pН Melting/freezing point No information available

Boiling point/boiling range FCC Method

Flash Point 26 °C / 79 °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 0.9354 - 0.9654 FCC Method Specific Gravity @ 20C 0.9384 - 0.9684 FCC Method Refractive Index 1.3632 - 1.3932 FCC Method

No information available Water solubility 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 No information available **Oxidizing Properties**

9.2. Other information

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

InhalationThere is no data available for this product.Eye contactThere is no data available for this product.Skin contactThere is no data available for this product.IngestionThere is no data available for this product.

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

 ATEmix (oral)
 6,802.00 mg/kg

 ATEmix (dermal)
 2,941.00 mg/kg

 ATEmix (inhalation-dust/mist)
 63,180.21 mg/l

Unknown Acute Toxicity

100% of the mixture consists of ingredient(s) of unknown toxicity.

40.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity. 97.5 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas). 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor). 42 % 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)	

Skin corrosion/irritationNo information available.Eye damage/irritationNo information available.SensitizationNo 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

40.5% 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	-

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical Name	log Pow
ETHYL ALCOHOL	-0.32

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.

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

Leaend:

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

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

H226 - Flammable liquid and vapor

H225 - Highly flammable liquid and vapor

H319 - Causes serious eye irritation

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 24-Nov-2025

Reason for revision: Not applicable.

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

WARNING/DISCLAIMER:

Our ingredients have not been tested, nor have they been determined safe, for inhalation or use in any electronic smoking devices, electronic nicotine delivery systems, electronic cigarettes, or other similar devices (collectively "E-Cigarettes") or in any E-Liquids used with E-Cigarettes. By receiving Apex Flavors, Inc ingredients, the recipient confirms that they will not use these ingredients in connection with the manufacture and distribution of E-Cigarettes, E-Liquids or any component thereof. WE DISCLAIM, TO THE FULLEST EXTENT PERMITTED BY LAW, ALL WARRANTIES, EXPRESS OR IMPLIED, and disclaim all liability in connection with the use of our ingredients in connection with E-Cigarettes and E-Liquids. All such risks are assumed by you and the user.

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