



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 15-Sep-2025 Version 5.02

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

1.1. Product identifier

Product Code(s) 465BEV, 465TTB, 465PGFT

Product name TANGERINE EXTRACT, NATURAL (WATER SOLUBLE) #856

Pure substance/mixture Mixture

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

Serious eye damage/eye irritation	Category 2 - (H319)
Skin sensitization	Category 1 - (H317)
Chronic aquatic toxicity	Category 3 - (H412)
Flammable liquids	Category 2 - (H225)

2.2. Label elements
Product identifier



Signal Word

Warning

Hazard Statements

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H411 - Toxic to aquatic life with long lasting effects

H225 - Highly flammable liquid and vapor

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

P280 - Wear eye protection/ face protection

P273 - Avoid release to the environment

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

P370 + P378 - In case of fire: Use CO2, dry chemical, or foam to extinguish

2.3. Other information

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

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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. 2 (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. 4 (H302) 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

General advice Immediate medical attention is required. Show this material safety data sheet to the doctor

in attendance.

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

Skin contact Wash off immediately with plenty of water. 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.

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Rinse mouth.

Self-protection of the first aider 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

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

Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment.

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. Do not flush into surface water or sanitary sewer system.

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 Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent

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

absorbent material.

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.

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General Hygiene Considerations

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. 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		
PINENES	-	=	-	VLA-ED: 20 ppm	=
80-56-8				VLA-ED: 113 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	
PINENES	-	TWA: 20 ppm	-	=	-
80-56-8					
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	
PINENES	-	=	-	TWA: 25 ppm TWA:	-
80-56-8				140 mg/m ³	
				Skin	
				STEL: 37.5 ppm	
				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 Antistatic boots. Wear fire/ flame resistant/ retardant clothing. Impervious gloves.

Respiratory protection NIOSH/MSHA approved respiratory protection is required to be worn.

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

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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9.1. Information on basic physical and chemical properties

Physical state liquid Appearance clear

Aroma Typical of tangerine

Color orange

<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 20 °C / 68 °F Closed cup
Evaporation rate FCC Method

Flammability (solid, gas)

No information available

Flammability Limits in Air

Upper flammability limit
Iower flammability limit
Vapor pressure mm Hg 20°C
No information available
No information available

Vapor densityNo information availableRelative densityNo information available

Specific Gravity @ 25C 0.8900 - 0.9090 FCC Method Specific Gravity @ 20C 0.893 - 0.912 FCC Method Patractive Index @ 20C 1.3540 - 1.3740 FCC Method

Refractive Index @ 20C 1.3540 - 1.3740 FCC Method
Water solubility No information available

Solubility in other solvents

Partition coefficient: n-octanol/water

Autoignition temperature

Decomposition temperature

No information available
No information available
No information available

Viscosity, kinematic

Viscosity, dynamic

No information available
No information available
No information available

Explosive propertiesNo information available **Oxidizing Properties**No information available

9.2. Other information

Softening point No information available Molecular Weight No information available

VOC Content(%) 60.7792

Density VALUE

Bulk Density VALUE

No information available
No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

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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

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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)
 6,954.50 mg/kg

 ATEmix (dermal)
 2,044.40 mg/kg

 ATEmix (inhalation-dust/mist)
 66,233.81 mg/l

Unknown Acute Toxicity

99.9648% of the mixture consists of ingredient(s) of unknown toxicity.

39.2208 % of the mixture consists of ingredient(s) of unknown acute oral toxicity. 98.3808 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

99.9648 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas). 99.9648 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor). 40.8048 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Oral LD50

Skin corrosion/irritationNo 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,

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Skin.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

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

39.2208% 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	9268 - 14221: 48 h Daphnia magna
		mykiss mL/L LC50 static 100: 96 h	mg/L LC50 10800: 24 h Daphnia
		Pimephales promelas mg/L LC50	magna mg/L EC50 2: 48 h Daphnia
		static 13400 - 15100: 96 h	magna mg/L EC50 Static
		Pimephales promelas mg/L LC50	
		flow-through	
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	41: 48 h Daphnia magna mg/L LC50
		mg/L LC50 static	

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

12.4. Mobility in soil

Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

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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

EXTRACTS, FLAVOURING, LIQUID 14.2 Proper shipping name

14.3 Hazard class 3 14.4 Packing Group Ш

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 Ш

ICAO/IATA

14.1 UN/ID No

14.2 Proper shipping name EXTRACTS, FLAVOURING, LIQUID

14.3 Hazard class 14.4 Packing Group Ш

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

New Zealand

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

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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

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

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

R11 - Highly flammable

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

H225 - Highly flammable liquid and vapor

H226 - Flammable liquid and vapor

H302 - Harmful if swallowed

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

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

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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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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.