



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 09-May-2017

Version 1

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

1.1. Product identifier

Product Code(s) 1409
Product name BLOOD ORANGE OIL - PURE, UNDILUTED, THERAPEUTIC & FOOD GRADE
EC-No 232-433-8
CAS-No 8008-57-9
FEMA Numbers 2825
Pure substance/mixture Natural Complex Substance
 Contains LIMONENE

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

Aspiration toxicity	Category 1 - (H304)
Skin corrosion/irritation	Category 2 - (H315)
Skin sensitization	Category 1 - (H317)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)
Flammable liquids	Category 3 - (H226)

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

R-code(s)
 R10

2.2. Label elements

Product identifier

Contains LIMONENE



Signal Word
Danger

Hazard Statements

H304 - May be fatal if swallowed and enters airways
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H410 - Very toxic 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)
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
 P331 - Do NOT induce vomiting
 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 Directive 67/548/EEC or 1999/45/EC	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
LIMONENE	227-813-5	5989-27-5	90-100%	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

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. If symptoms persist, call a physician.

Inhalation

Immediate medical attention is not required. If symptoms persist, call a physician. Move to fresh air in case of accidental inhalation of vapors or decomposition products.

Skin contact

Wash off immediately with plenty of water. Immediate medical attention is not required.

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

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.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. Do NOT induce vomiting.
Self-protection of the first aider	Remove all sources of ignition. 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 Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use. Dry chemical. Carbon dioxide CO₂. Water spray. Alcohol-resistant foam.

Unsuitable extinguishing media

No information available

5.2. Special hazards arising from the substance or mixture

Keep product and empty container away from heat and sources of ignition Risk of ignition

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

Evacuate personnel to safe areas. Remove all sources of ignition. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Pay attention to flashback. Take precautionary measures against static discharges. 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. 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 Dam up. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Soak up with inert

absorbent material. Take precautionary measures against static discharges.

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

To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. 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. Use only in area provided with appropriate exhaust ventilation. Keep away from heat, sparks and open flame. No smoking. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

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 in properly labeled containers. Keep tightly closed in a dry and cool place. Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat.

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	Italy	Portugal	The Netherlands	Finland	Denmark
LIMONENE 5989-27-5	-	-	-	TWA: 25 ppm TWA: 140 mg/m ³ STEL: 50 ppm STEL: 280 mg/m ³	-
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
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	-

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

Antistatic boots. Impervious gloves. Wear fire/ flame resistant/ retardant clothing. Long sleeved clothing. Chemical resistant apron.

Environmental Exposure Controls No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	liquid
Appearance	liquid
Odor	strong orange
Color	deep orange red

Property	Values	• Method
pH		No information available
Melting/freezing point		No information available
Boiling point/boiling range		FCC Method
Flash Point	46 °C / 115 °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	0.8420 - 0.8490	FCC Method
Specific Gravity @ 20C	0.845 - 0.852	FCC Method
Refractive Index	1.4720 - 1.4800	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

Heat, flames and sparks.

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)	4,632.00 mg/kg
ATEmix (dermal)	2,105.00 mg/kg

Unknown Acute Toxicity

- 100% of the mixture consists of ingredient(s) of unknown toxicity.
- 5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
- 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).
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

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.
Aspiration hazard	No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity Very toxic to aquatic life with long lasting effects

5% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
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.

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.

Section 14: TRANSPORT INFORMATION

IMDG / IMO

14.1 UN/ID No 1993
 14.2 Proper shipping name Flammable Liquid, N.O.S. (Limonene)
 14.3 Hazard class 3
 14.4 Packing Group III
Marine pollutant This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

DOT/ADR/RID

14.1 UN/ID No	1993
14.2 Proper shipping name	Flammable Liquid, N.O.S. (Limonene)
14.3 Hazard class	3
14.4 Packing Group	III

ICAO/IATA

14.1 UN/ID No	1993
14.2 Proper shipping name	Flammable Liquid, N.O.S. (Limonene)
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
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

R10 - Flammable

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

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 09-May-2017

Reason for revision: Not applicable.

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