



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

**1.1. Product identifier**

**Number** 251TTB

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

**Product name** BLOOD ORANGE 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**

Skin corrosion/irritation	Category 3
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Carcinogenicity	Category 1A
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 3
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)**

Xi - Irritant  
N - Dangerous for the environment

**R-code(s)**

R43 - N;R51-53

**2.2. Label elements****Signal Word**

Danger

**Hazard Statements**

H316 - Causes mild skin irritation  
 H317 - May cause an allergic skin reaction  
 H319 - Causes serious eye irritation  
 H350 - May cause cancer  
 H401 - Toxic to aquatic life  
 H412 - Harmful to aquatic life with long lasting effects

**Precautionary Statements**

P280 - Wear eye protection/ face protection  
 P321 - Specific treatment (see .? on this label)  
 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		30-50%	F; R11	Flam. Liq. 2 (H225) Flam. Liq. 2 (H225)	No data available
LIMONENE	227-813-5	5989-27-5		1-5%	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

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

<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
<b>Skin contact</b>	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.
<b>Ingestion</b>	Do NOT induce vomiting. Drink plenty of water. Immediate medical attention is not required. Rinse mouth.
<b>Inhalation</b>	Move to fresh air. If symptoms persist, call a physician.
<b>Self-protection of the first aider</b>	Use personal protective equipment.

#### 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** May cause sensitization in susceptible persons

### 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

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

See Section 12 for additional Ecological Information

#### 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

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**

Use personal protective equipment as required. Ensure adequate ventilation.

**7.2. Conditions for safe storage, including any incompatibilities**

Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, 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 <sup>3</sup> TWA: 1000 ppm TWA: 1920 mg/m <sup>3</sup>	VME: 1000 ppm VME: 1900 mg/m <sup>3</sup> VLCT: 5000 ppm VLCT: 9500 mg/m <sup>3</sup>	VLA-ED: 1000 ppm VLA-ED: 1910 mg/m <sup>3</sup>	MAK: 500 ppm MAK: 960 mg/m <sup>3</sup> Ceiling / Peak: 1000 ppm Ceiling / Peak: 1920 mg/m <sup>3</sup> Skin TWA: 500 ppm TWA: 960 mg/m <sup>3</sup>
LIMONENE 5989-27-5					MAK: 20 ppm MAK: 110 mg/m <sup>3</sup> Ceiling / Peak: 40 ppm Ceiling / Peak: 220 mg/m <sup>3</sup> TWA: 20 ppm TWA: 110 mg/m <sup>3</sup>

Chemical Name	Italy	Portugal	The Netherlands	Finland	Denmark
ETHYL ALCOHOL 64-17-5		TWA: 1000 ppm	Skin STEL: 1900 mg/m <sup>3</sup> TWA: 260 mg/m <sup>3</sup>	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> STEL: 1300 ppm STEL: 2500 mg/m <sup>3</sup>	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
LIMONENE 5989-27-5				TWA: 25 ppm TWA: 140 mg/m <sup>3</sup> STEL: 50 ppm STEL: 280 mg/m <sup>3</sup>	

Chemical Name	Austria	Sweden - Occupational Exposure Limits - TLVs (LLVs)	Switzerland	Poland	Norway
ETHYL ALCOHOL 64-17-5	STEL 2000 ppm STEL 3800 mg/m <sup>3</sup> MAK: 1000 ppm MAK: 1900 mg/m <sup>3</sup>	500 ppm NGV 1000 mg/m <sup>3</sup> NGV	STEL: 1000 ppm STEL: 1920 mg/m <sup>3</sup> MAK: 500 ppm MAK: 960 mg/m <sup>3</sup>	NDS: 1900 mg/m <sup>3</sup>	TWA: 500 ppm TWA: 950 mg/m <sup>3</sup> STEL: 625 ppm STEL: 1187.5 mg/m <sup>3</sup>
LIMONENE 5989-27-5			STEL: 40 ppm STEL: 220 mg/m <sup>3</sup> MAK: 20 ppm MAK: 110 mg/m <sup>3</sup>		TWA: 25 ppm TWA: 140 mg/m <sup>3</sup> STEL: 37.5 ppm STEL: 175 mg/m <sup>3</sup>

Component	Ireland
ETHYL ALCOHOL 64-17-5 ( 30-50% )	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>

**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** When using, do not eat, drink or smoke Wash contaminated clothing before reuse

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	liquid	<b>Appearance</b>	clear
<b>Odor</b>	fruity orange	<b>Color</b>	light yellow

<u>Property</u>	<u>Values</u>	<u>Method</u>
<b>pH</b>		No information available
<b>Melting/freezing point</b>		No information available
<b>Boiling point/boiling range</b>		FCC Method
<b>Flash Point</b>	21 °C / 70 °F	Closed cup
<b>Evaporation rate</b>		FCC Method
<b>Flammability (solid, gas)</b>		No information available
<b>Flammability Limits in Air</b>		No information available
<b>Upper flammability limit</b>		
<b>lower flammability limit</b>		
<b>Vapor pressure mm Hg 20°C</b>		No information available
<b>Vapor density</b>		No information available
<b>Relative density</b>		No information available
<b>Specific Gravity @ 25C</b>	0.8980 - 0.9180	FCC Method
<b>Specific Gravity @ 20C</b>	0.9010 - 0.9210	FCC Method
<b>Refractive Index</b>	1.3540 - 1.3740	FCC Method
<b>Water solubility</b>		No information available
<b>Partition coefficient: n-octanol/water</b>		No information available
<b>Autoignition temperature</b>		No information available
<b>Decomposition temperature</b>		No information available
<b>Viscosity, dynamic</b>		No information available

**Explosive properties** No information available

**Oxidizing Properties** No information available

### 9.2. Other information

**VOC Content(%)** 60.3031233781949  
**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**

<b>Inhalation</b>	There is no data available for this product
<b>Eye contact</b>	There is no data available for this product
<b>Skin contact</b>	There is no data available for this product
<b>Ingestion</b>	There is no data available for this product
<b>Acute toxicity</b>	47.82339579% 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):

<b>Oral</b>	6,982.00 mg/kg
<b>Dermal</b>	60,667.00 mg/kg

<b>Inhalation</b>	
<b>Mist</b>	69,076.00 mg/l

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 )	

<b>Skin corrosion/irritation</b>	No information available
<b>Eye damage/irritation</b>	No information available
<b>Sensitization</b>	No information available
<b>Germ Cell Mutagenicity</b>	No information available
<b>Carcinogenicity</b>	No information available

<b>Specific target organ systemic toxicity (single exposure)</b>	No information available
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<b>Specific target organ systemic toxicity (repeated exposure)</b>	No information available
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**Target Organ Effects** Blood Central nervous system Eyes Liver Reproductive system Respiratory system Skin

**Aspiration hazard** No information available

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecotoxicity effects** Toxic to aquatic organisms, may cause long-term adverse effects in 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

No information available

### 12.5. Results of PBT and vPvB assessment

### 12.6. Other adverse effects

## 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

**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

## 14. TRANSPORT INFORMATION

**DOT****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

<b>15. REGULATORY INFORMATION</b>
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**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

**International Inventories**

**All of the components in the product are on the following Inventory lists:** No information available, United States of America (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), Korea (ECL), China (IECSC), Japan (ENCS), Philippines (PICCS).

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**

<b>16. OTHER INFORMATION</b>
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**Risk Combination Phrases**

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
 R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment



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**Full text of H-Statements referred to under sections 2 and 3**

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 H226 - Flammable liquid and vapor H225 - Highly flammable liquid and vapor

<b>Revision Date</b>	08-Jun-2016
<b>Revision Note</b>	Not applicable.
<b>Revision#</b>	2.01

**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.

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