



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

1.1. Product identifier

Number 1403
EC-No 283-518-1
CAS-No 68952-43-2
FEMA Numbers 2096

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

Product name ANISE STAR OIL - PURE, THERAPEUTIC & FOOD GRADE
Pure substance/mixture Natural Complex Substance

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

Acute oral toxicity	Category 5
Skin corrosion/irritation	Category 3
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 2
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 3
Flammable liquids	Category 4

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**

Warning

Hazard Statements

H303 - May be harmful if swallowed
 H316 - Causes mild skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H341 - Suspected of causing genetic defects
 H351 - Suspected of causing cancer
 H401 - Toxic to aquatic life
 H412 - Harmful to aquatic life with long lasting effects

H227 - Combustible liquid

Precautionary Statements

P280 - Wear eye protection/ face protection
 P321 - Specific treatment (see .? on this label)
 P281 - Use personal protective equipment as required
 P403 + P235 - Store in a well-ventilated place. Keep cool
 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
 P280 - Wear protective gloves/ eye protection/ face protection

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
ANETHOLE	203-205-5	104-46-1		50-90%	XI; R43, N; R51/53;	Aquatic Acute 2 (H401) Skin Sens. 1 (H317) Skin Irrit. 3 (H316) Acute Tox. 5 (H303)	No data available
ESTRAGOLE	205-427-8	140-67-0		1-5%	XN; R22, CARC.CAT.3; R40, XI; R43, MUTA.CAT.3; R68;	Skin Sens. 1 (H317) Carc. 2 (H351) Muta. 2 (H341) Skin Irrit. 3 (H316) Acute Tox. 4 (H302) Flam. Liq. 4 (H227)	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

LINALLOOL	201-134-4	78-70-6		1-5%	XI; R38	Aquatic Acute 3 (H402) Skin Irrit. 2 (H316) Acute Tox. 5 (H303) Flam. Liq. 4 (H227)	No data available
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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

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

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
LIMONENE 5989-27-5					MAK: 20 ppm MAK: 110 mg/m ³ Ceiling / Peak: 40 ppm Ceiling / Peak: 220 mg/m ³ TWA: 20 ppm TWA: 110 mg/m ³

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	Sweden - Occupational Exposure Limits - TLVs (LLVs)	Switzerland	Poland	Norway
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 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**

Physical state	liquid	Appearance	clear
Odor	anise	Color	Colorless to pale yellow.
Property	Values	Method	
pH		No information available	
Melting/freezing point		No information available	
Boiling point/boiling range		FCC Method	
Flash Point	93 °C / 200 °F	Closed cup	
Evaporation rate		FCC Method	
Flammability (solid, gas)		No information available	
Flammability Limits in Air		No information available	
Upper flammability limit			
lower flammability limit			
Vapor pressure mm Hg 20°C		No information available	
Vapor density		No information available	
Relative density		No information available	
Specific Gravity @ 25C	0.9780 - 0.9880	FCC Method	
Specific Gravity @ 20C	0.981 - 0.991	FCC Method	
Refractive Index	1.5530 - 1.5600	FCC Method	
Water solubility		No information available	
Partition coefficient: n-octanol/water		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity, dynamic		No information available	
Explosive properties	No information available		
Oxidizing Properties	No information available		

9.2. Other information

VOC Content(%)	2
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**

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
Acute toxicity	6% 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):

Oral	2,205.00 mg/kg
Dermal	5,160.00 mg/kg

Chemical Name	Oral LD50	Dermal LD50	LC50 Inhalation
ANETHOLE	2090 mg/kg (Rat)	5 g/kg (Rabbit)	
ESTRAGOLE	1230 mg/kg (Rat)	5 g/kg (Rabbit)	
LIMONENE	4400 mg/kg (Rat)	2000 mg/kg (Rabbit)	
LINALOOL	2790 mg/kg (Rat)	5610 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

Specific target organ systemic toxicity (single exposure) No information available

Specific target organ systemic toxicity (repeated exposure) No information available

Target Organ Effects No information available

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
LIMONENE		0.619-0.796: 96 h Pimephales promelas mg/L LC50 flow-through 35: 96 h Oncorhynchus mykiss mg/L LC50	
LINALOOL	88.3: 96 h Desmodesmus subspicatus mg/L EC50	22-46: 96 h Leuciscus idus mg/L LC50 static	20: 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
LINALOOL	2.84 - 3.1

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	Not regulated
IMDG / IMO	Not regulated
ICAO/IATA	Not regulated

15. REGULATORY INFORMATION**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
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LINALOOL 78-70-6	Hazard Class 1
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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	Complies
EINECS/ELINCS	Complies
DSL/NDSL	Complies
PICCS	Complies
ENCS	Complies
IECSC	Complies
AICS	Complies
KECL	Complies

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

16. OTHER INFORMATION

Risk Combination Phrases

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

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

- H401 - Toxic to aquatic life H317 - May cause an allergic skin reaction H316 - Causes mild skin irritation H303 - May be harmful if swallowed H351 - Suspected of causing cancer if inhaled H341 - Suspected of causing genetic defects if inhaled H302 - Harmful if swallowed H227 - Combustible liquid H400 - Very toxic to aquatic life H304 - May be fatal if swallowed and enters airways H410 - Very toxic to aquatic life with long lasting effects H226 - Flammable liquid and vapor H402 - Harmful to aquatic life

Revision Date	05-May-2016
Revision Note	Not applicable.
Revision#	2.02

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.

1403 ANISE STAR OIL - PURE, THERAPEUTIC & FOOD GRADE
Revision Date 05-May-2016

Disclaimer

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