



PHOENIX

Safety Data Sheet

This safety data sheet complies with the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Product code ANI0003
Product name STAR ANISE OIL FCC

Issue date 24-Apr-2015

Revision date 23-Apr-2020

Version 6

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product code	ANI0003
<i>Product name</i>	STAR ANISE OIL FCC
REACH registration number	01-2120230257-63-XXXX
EC No.	283-518-1
CAS No	68952-43-2 / 84650-59-9
Chemical Name	Illicium verum Hook, f
Synonyms	Aniseed oil China star
Pure substance/mixture	Substance
Contains Anethole, Estragole, Limonene-d - indirect natural impurity	

1.2. Relevant identified uses of the substance or mixture and uses advised against

Sold to the general public?	No
Recommended Use	Industry Use
Uses advised against	No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Phoenix Aromas Europe Ltd.
Unit 2A Wyncolls Road
Severells Business Park
Colchester, Essex
CO4 9HU
Tel: (+44) 208 532 1022

For further information, please contact

Contact Point	Fred Wise
E-mail address	fwise@phoenixaromas.com

1.4. Emergency telephone number

Emergency telephone	CHEMTREC
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Emergency telephone - +1-703-741-5970

Europe	CCN# 17256
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin sensitization	Category 1B - (H317)
Germ cell mutagenicity	Category 2 - (H341)
Carcinogenicity	Category 2 - (H351)
Chronic aquatic toxicity	Category 3 - (H412)

2.2. Label Elements**Product identifier**

Contains Anethole, Estragole, Limonene-d - indirect natural impurity

**Signal word**

Warning

Hazard statements

H317 - May cause an allergic skin reaction

H341 - Suspected of causing genetic defects

H351 - Suspected of causing cancer

H412 - Harmful to aquatic life with long lasting effects

Contains Linalool, alpha-Pinene EUH208 - May produce an allergic reaction

Precautionary Statements

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P263 - Avoid contact during pregnancy/while nursing

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P273 - Avoid release to the environment

P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other Hazards

H303 - May be harmful if swallowed H316 - Causes mild skin irritation H401 - Toxic to aquatic life

SECTION 3: Composition/information on ingredients**3.1 Substances****Chemical nature**

Essential oil.

Chemical Name	EC No.	CAS No.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Anethole	Present	4180-23-8	80 - <90	Skin Sens. 1B (H317) (EFFA) Acute Aquatic 2 (H401) (EFFA) Acute Tox. 5 (H303) (EFFA) Skin Irr. 3 (H316) (EFFA)	No data available
Estragole	Present	140-67-0	1 - <10	Skin Sens. 1 (H317), Carc. 2 (H351), Muta. 2 (H341), Skin Irrit. 2	No data available

				(H315), Acute Tox. 4 (H302), Flam. Liq. 4 (H227) Aquatic Acute 2 (H401), Aquatic Chronic 3 (H412)	
d-Limonene	Present	5989-27-5	1 - <10	Aspiration Hazard 1 (H304)(EFFA) Flam. Liq. 3 (H226)(EFFA) Skin Irrit. 2 (H315)(EFFA) Skin Sens. 1B (H317)(EFFA) Aquatic Acute 1 (H400)(EFFA) Aquatic Chronic 1 (H410)(EFFA)	No data available
Foeniculin	-	78259-41-3	1 - <10	Not classified	No data available
Linalool	Present	78-70-6	1 - <10	Aquatic Acute 3 (H402) (EFFA) Eye Irrit. 2 (H319) (EFFA) Skin Irrit. 2 (H315) (EFFA) Acute Tox. 5 (H303)(EFFA) Flam. Liq. 4 (H227)(EFFA) Skin Sens. 1B (H317) (EFFA)	No data available
alpha-Pinene	Present	80-56-8	0.1 - <1	Acute Aquatic 1 (H400) (EFFA) Chronic Aquatic 1 (H410) (EFFA) Acute Tox. 4 (H302) (EFFA) Skin Sens. 1B (H317) (EFFA) Skin Irrit. 2 (H315) (EFFA) Asp. Tox. 1 (H304) (EFFA) Flam. Liq. 3 (H226)(EFFA)	No data available
trans-alpha-Bergamotene	-	13474-59-4	0.1 - <1	Not Classified	No data available
Caryophyllene	Present	87-44-5	0.1 - <1	Skin Sens. 1B (H317) (EFFA) Asp. Tox. 1 (H304) (EFFA) Chronic Aquatic 4 (H413) (EFFA)	No data available
alpha-Phellandrene	Present	99-83-2	0.1 - <1	Skin Irrit. 3 (H316) (EFFA) Asp. Tox. 1 (H304) (EFFA) Flam. Liq. 3 (H226)(EFFA)	No data available
Anisic aldehyde	Present	123-11-5	0.1 - <1	Aquatic Acute 3 (H402) (EFFA) Aquatic Chronic 3 (H412) (EFFA) Acute Tox. 5 (H303) (EFFA)	No data available
delta-3-Carene	Present	13466-78-9	0.1 - <1	Skin Sens. 1 (H317) (EFFA) Skin Irrit. 2 (H315) (EFFA) Asp. Tox. 1 (H304) (EFFA) Acute Tox. 5 (H303)(EFFA) Flam. Liq. 3 (H226)(EFFA) Acute Aquatic 1 (H400)(EFFA) Chronic Aquatic 1 (H410)(EFFA)	No data available
Myrcene	Present	123-35-3	0.01 - <0.1	Eye Irrit. 2 (H319) (EFFA) Skin Irrit. 2 (H315) (EFFA) Asp. Tox. 1 (H304) (EFFA) Flam. Liquid 3 (H226) (EFFA) Acute Aquatic 1 (H400) (EFFA) Chronic Aquatic 2	No data available

Camphene	Present	79-92-5	0.01 - <0.1	(H411) (ECHA) Aquatic Acute 1 (H400) (ECHA) Eye Irrit. 2B (H320) (ECHA) Aquatic Chronic 1 (H410) (ECHA) Flam. Sol 2 (H228) (ECHA)	No data available
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Full text of H- and EUH-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	IF exposed or concerned: Get medical advice/attention.
Inhalation	Remove to fresh air.
Skin contact	IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Eye Contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	None known.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Use CO₂, dry chemical, or foam

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire

5.2. Special hazards arising from the substance or mixture

Combustible material Keep product and empty container away from heat and sources of ignition

Hazardous combustion products Irritating or toxic substances may be emitted upon burning, combustion, or decomposition.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Avoid contact with eyes and skin. Ensure adequate ventilation, especially in confined areas.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Collect spillage.

6.3. Methods and material for containment and cleaning up**Methods for Containment**

Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up

Cover liquid spill with sand, earth or other non-combustible absorbent material. Sweep up and shovel into suitable containers for disposal.

6.4. Reference to other sections

See Section 12: ECOLOGICAL INFORMATION.

SECTION 7: Handling and storage

7.1. Precautions for safe handling**Advice on safe handling**

Avoid contact with skin and eyes. Ensure adequate ventilation, especially in confined areas. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Do not eat, drink or smoke when using this product.

General hygiene considerations

Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Avoid breathing (dust, vapor, mist, gas).

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

Store locked up. Keep containers tightly closed in a cool, well-ventilated place. Keep out of the reach of children. Protect from direct sunlight.

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	United Kingdom	France	Spain	Germany
d-Limonene 5989-27-5	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	S* TWA: 30 ppm TWA: 168 mg/m ³	TWA: 5 ppm TWA: 28 mg/m ³ Ceiling / Peak: 20 ppm Ceiling / Peak: 112 mg/m ³ Skin
alpha-Pinene 80-56-8	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	TWA: 20 ppm TWA: 113 mg/m ³	-
alpha-Phellandrene	-	-	TWA: 1000 mg/m ³	-	-

99-83-2			STEL: 1500 mg/m ³		
delta-3-Carene 13466-78-9	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	TWA: 20 ppm TWA: 113 mg/m ³	-
Myrcene 123-35-3	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
Camphene 79-92-5	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark
d-Limonene 5989-27-5	-	-	-	TWA: 25 ppm TWA: 140 mg/m ³ STEL: 50 ppm STEL: 280 mg/m ³	-
alpha-Pinene 80-56-8	-	TWA: 20 ppm	-	-	-
delta-3-Carene 13466-78-9	-	TWA: 20 ppm	-	-	-
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
d-Limonene 5989-27-5	-	STEL: 14 ppm STEL: 80 mg/m ³ TWA: 7 ppm TWA: 40 mg/m ³	-	TWA: 25 ppm TWA: 140 mg/m ³ STEL: 37.5 ppm STEL: 175 mg/m ³	-
alpha-Pinene 80-56-8	-	Skin STEL: 40 ppm STEL: 224 mg/m ³ TWA: 20 ppm TWA: 112 mg/m ³	-	TWA: 25 ppm TWA: 140 mg/m ³ Skin STEL: 37.5 ppm STEL: 175 mg/m ³	-
delta-3-Carene 13466-78-9	-	Skin STEL: 40 ppm STEL: 224 mg/m ³ TWA: 20 ppm TWA: 112 mg/m ³	-	TWA: 25 ppm TWA: 140 mg/m ³ STEL: 37.5 ppm STEL: 175 mg/m ³	-
Myrcene 123-35-3	-	-	-	TWA: 40 ppm TWA: 275 mg/m ³ STEL: 60 ppm STEL: 343.75 mg/m ³	-
Camphene 79-92-5	-	Skin STEL: 40 ppm STEL: 224 mg/m ³ TWA: 20 ppm TWA: 112 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

Showers
Eyewash stations
Ventilation systems
Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Eye/Face Protection

Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

Hand protection

Wear protective nitrile rubber gloves.

Skin and Body Protection

Avoid contact with skin. Wear protective gloves and protective clothing.

Respiratory protection

Ensure adequate ventilation, especially in confined areas. No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls Prevent product from entering drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid	Odor	Characteristic odor
Appearance	Clear	Odor threshold	Not applicable
Color	Colorless to Pale Yellow		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		
Melting point / freezing point	21 °C / 70 °F	
Boiling point / boiling range	233 °C / 451 °F	
Flash Point	> 93 °C / > 200 °F	CC (closed cup)
Evaporation Rate		
Flammability (solid, gas)		
Flammability Limit in Air		
Upper flammability limit:		
Lower flammability limit:		
Vapor pressure	8.5kPa	(20°C)
Vapor Density		
Specific gravity	0.978 - 0.988	(25°C)
Water solubility		
solubility(ies)		
Partition coefficient		
Autoignition Temperature	426 °C / 799 °F	
Decomposition temperature		
Kinematic viscosity		
Dynamic viscosity		
Explosive properties	Not an explosive	
Oxidizing properties	Not oxidising	

9.2. Other information

Molecular weight	Not applicable
VOC content (%)	1.58174
Density	981.6 kg/m ³
Bulk Density	Not applicable

SECTION 10: Stability and reactivity**10.1. Reactivity****10.2. Chemical stability**

Stable under recommended storage conditions.

Explosion data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

10.3. Possibility of hazardous reactions**Possibility of Hazardous Reactions**

None under normal processing.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight. Keep out of reach of children.

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

Inhalation	Avoid breathing vapors or mists.
Eye Contact	Avoid contact with eyes.
Skin contact	Avoid contact with skin. Causes mild skin irritation. May cause an allergic skin reaction.
Ingestion	May be harmful if swallowed.

97.8828 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
 97.8828 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
 97.8828 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Oral LD50 2,570.00 mg/kg
Dermal LD50 > 2,000 mg/kg

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Anethole	3,050 mg/kg (Rat)	>4,900 mg/kg (Rabbit)	5.1 mg/L
Estragole	= 1230 mg/kg (Rat)	> 5 g/kg (Rabbit) > 5000 mg/kg (Rabbit)	
d-Limonene	6 Rat > 2000 mg/kg Female 1 (reliable without restriction) 7 Rat > 5000 mg/kg Male 4 (not assignable) 8 Rat > 5000 mg/kg 4 (not assignable) 1 Mouse 5600 mg/kg Male 4 (not assignable) 5 Rat 5300 mg/kg Male 4 (not assignable) 2 Mouse 6600 mg/kg Female 4 (not assignable) 3 Rat 4400 mg/kg Male 4 (not assignable) 4 Rat 5200 mg/kg Female 4 (not assignable)	> 5 g/kg (Rabbit)	
Linalool	= 2790 mg/kg (Rat)	= 2000 mg/kg (Rabbit) = 5610 mg/kg (Rat)	
alpha-Pinene	500mg/kg (Rat)	> 5000 mg/kg (Rat)	
alpha-Phellandrene	= 5700 mg/kg (Rat)		
Anisic aldehyde	= 1510 mg/kg (Rat) > 2000 mg/kg (Rat)	> 5 g/kg (Rabbit) > 5000 mg/kg (Rabbit)	> 0.32 mg/L (Rat) 7 h
delta-3-Carene	= 4800 mg/kg (Rat)		
Myrcene	> 5 g/kg (Rat)	> 5 g/kg (Rabbit)	
Camphene	> 5 g/kg (Rat)	> 2500 mg/kg (Rabbit)	= 17100 mg/m ³ (Rat) 1 h

Skin corrosion/irritation	Causes mild skin irritation.
Serious eye damage/eye irritation	Not classified.
Sensitization	May cause sensitization by skin contact.
Germ cell mutagenicity	Suspected of causing genetic defects. Indirect natural estragole.
Carcinogenicity	Substances known to be carcinogenic to man.
Reproductive toxicity	This product does not contain any known or suspected reproductive hazards above the

	threshold value.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.
Aspiration hazard	Not classified.

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life

Harmful to aquatic life with long lasting effects

8.28666 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Crustacea	Algae/aquatic plants	Fish
Anethole	48hr EC50/LC50 - 6.82 mg/L (Daphnia magna)	72hr EC50 - 9.57 mg/L (Pseudokirchneriella subcapitata)	96hr LC50 - 7 mg/L (Danio rerio)
d-Limonene	48hr EC50 - 0.4 mg/L (Daphnia magna)	96 hr NOEC - 4mg/L (Green algae)	96hr LC50 - 0.7mg/L (Pimephales promelas)
Linalool	48hr EC50 - 59mg/L (Daphnia magna)	96hr EC50 - 156.7 mg/L; EC10 or NOEC - 54.3 mg/L (Desmodesmus subspicatus)	96hr LC50 - 27.8mg/L (Salmo gairdneri)
alpha-Pinene	41: 48 h Daphnia magna mg/L LC50		0.28: 96 h Pimephales promelas mg/L LC50 static
Anisic aldehyde	48hr EC50 - 82.8 mg/l (Daphnia magna)	72hr EC50 - 61 mg/L, EC10 or NOEC - 0.65 mg/L	96hr LC50 - 148.32 mg/l (Golden orfe)
Camphene	22: 48 h Daphnia magna mg/L EC50		0.72: 96 h Brachydanio rerio mg/L LC50 flow-through 150: 96 h Brachydanio rerio mg/L LC50 static

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

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container. Improper disposal or reuse of this container may be dangerous and illegal.

SECTION 14: Transport information

IMDG

14.1 UN/ID no Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 14.5 Marine pollutant Not applicable
 14.6 Special Provisions None
 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

RID

14.1 UN/ID no Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazard Not applicable
 14.6 Special Provisions None

ADR

14.1 UN/ID no Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazard Not applicable
 14.6 Special Provisions None

ICAO (air)

14.1 UN/ID no Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazard Not applicable
 14.6 Special Provisions None

IATA

14.1 UN/ID no Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 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

Chemical Name	French RG number	Title
d-Limonene 5989-27-5	RG 84	-

Water hazard class (WGK) Hazardous to water (WGK 2)

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

Authorization 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

15.2. Chemical safety assessment

No information available

SECTION 16: Other information**Full text of H-Statements referred to under section 3**

H319 - Causes serious eye irritation
H315 - Causes skin irritation
H304 - May be fatal if swallowed and enters airways
H226 - Flammable liquid and vapor
H317 - May cause an allergic skin reaction
H351 - Suspected of causing cancer if inhaled
H341 - Suspected of causing genetic defects if inhaled
H316 - Causes mild skin irritation
H302 - Harmful if swallowed
H227 - Combustible liquid
H401 - Toxic to aquatic life
H303 - May be harmful if swallowed
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H402 - Harmful to aquatic life

Key literature references and sources for data

Key Source: European Chemicals Agency, <http://echa.europa.eu>

Issue date	24-Apr-2015
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Revision note	Not applicable.

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

Disclaimer

This material has not been tested or proven safe for inhalation. With this document, Phoenix LLC only attests to the safety of the product when used in the appropriate and suitable fragrance/flavor industry application.

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text. Classification and labeling according to the IFRA/IOFI Labeling Manual 2019.

End of Safety Data Sheet