



1 Identification

- **Product identifier**
- **Trade name:** Star anise essential oil
- **Article number:** 100138
- **Application of the substance / the mixture** Flavouring agents
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Fagron Inc
2400 Pilot Knob Road
St. Paul, MN 55120
www.fagron.us
QA@fagron.us
- **Information department:**
Tel.: 800-423-6967
Fax: 800-339-1596
- **Emergency telephone number:**
Emergency Telephone:
US: 1-800-535-5053
International: 1-352-323-3500

2 Hazard(s) identification

- **Classification of the substance or mixture**
Flammable Liquids 4 H227 Combustible liquid.
Sensitization - Skin 1 H317 May cause an allergic skin reaction.
Germ Cell Mutagenicity 1A H340 May cause genetic defects.
Carcinogenicity 2 H351 Suspected of causing cancer.
- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**

GHS07 GHS08
- **Signal word** Danger
- **Hazard-determining components of labeling:**
(E)-anethole (synthetic)
Estragole
Linalool
alpha-Pinene
delta-3-Carene
(R)-p-mentha-1,8-diene
Eucalyptol
Cineole
- **Hazard statements**
Combustible liquid.

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May cause an allergic skin reaction.

May cause genetic defects.

Suspected of causing cancer.

• **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from flames and hot surfaces. – No smoking.

Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin: Wash with plenty of water.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

In case of fire: Use CO₂, powder or water spray to extinguish.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



Health = 0

Fire = 1

Reactivity = 0

• **HMIS-ratings (scale 0 - 4)**



Health = *0

Fire = 1

Reactivity = 0

• **Other hazards**

• **Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

3 Composition/information on ingredients

• **Chemical characterization: Mixtures**

• **Description:** Mixture of the substances listed below with nonhazardous additions.

• **Dangerous components:**

CAS: 4180-23-8	(E)-anethole (synthetic)	50–≤100%
CAS: 140-67-0	Estragole	5–≤10%
CAS: 78-70-6	Linalool	1–≤3%
CAS: 80-56-8	alpha-Pinene	1%
CAS: 4221-98-1	(-)-(R)-.alpha.-Phellandrene	0.1–≤1%
CAS: 5989-27-5	(R)-p-mentha-1,8-diene	1%
CAS: 87-44-5	beta-Caryophyllene	0.1–≤1%

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CAS: 470-82-6	Eucalyptol Cineole	1%
CAS: 13466-78-9	delta-3-Carene	≥0.1—<1%

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
Carbon dioxide
Sand
Fire-extinguishing powder
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.

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See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

• **Protective Action Criteria for Chemicals**

• **PAC-1:**

CAS: 5989-27-5 (R)-p-mentha-1,8-diene	15 ppm
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• **PAC-2:**

CAS: 5989-27-5 (R)-p-mentha-1,8-diene	67 ppm
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• **PAC-3:**

CAS: 5989-27-5 (R)-p-mentha-1,8-diene	170 ppm
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7 Handling and storage

• **Handling:**

• **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

• **Information about protection against explosions and fires:**

Keep respiratory protective device available.

• **Conditions for safe storage, including any incompatibilities**

• **Storage:**

• **Requirements to be met by storerooms and receptacles:** No special requirements.

• **Information about storage in one common storage facility:** Not required.

• **Further information about storage conditions:** Keep receptacle tightly sealed.

• **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

• **Additional information about design of technical systems:** No further data; see section 7.

• **Control parameters**

• **Components with limit values that require monitoring at the workplace:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

CAS: 80-56-8 alpha-Pinene

TLV	Long-term value: 20 ppm DSEN, A4
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CAS: 13466-78-9 delta-3-Carene

TLV	Long-term value: 112 mg/m ³ , 20 ppm DSEN
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• **Additional information:** The lists that were valid during the creation were used as basis.

• **Exposure controls**

• **Personal protective equipment:**

• **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

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Store protective clothing separately.

· **Breathing equipment:**

Filter P1

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Goggles recommended during refilling.

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Fluid
· Color:	Yellowish
· Odor:	Characteristic
· Odor threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	Undetermined.

· **Flash point:** 93°C (199.4°F)

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

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· Explosion limits: Lower: Upper:	Not determined. Not determined.
· Vapor pressure:	Not determined.
· Density at 20°C (68°F): · Relative density · Vapor density · Evaporation rate	0.981 g/cm ³ (8.18645 lbs/gal) Not determined. Not determined. Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity: Dynamic: Kinematic:	Not determined. Not determined.
· Solvent content: Organic solvents: VOC content:	>0.3–1 % >0.25–1 % 9.8 g/l / 0.08 lb/gal
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
Oral	LD50	34517 mg/kg (rat)
CAS: 4180-23-8 (E)-anethole (synthetic)		
Oral	LD50	2090 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)
CAS: 78-70-6 Linalool		
Oral	LD50	2790 mg/kg (rat)
Dermal	LD50	5610 mg/kg (rabbit)

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CAS: 4221-98-1 (-)-(R)-.alpha.-Phellandrene

Oral | LD50 | 5700 mg/kg (rat)

CAS: 5989-27-5 (R)-p-mentha-1,8-diene

Oral | LD50 | 4400 mg/kg (rat)

**CAS: 470-82-6 Eucalyptol
Cineole**

Oral | LD50 | 2480 mg/kg (rat)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

CAS: 5989-27-5 | (R)-p-mentha-1,8-diene

3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Toxic for fish

· **Additional ecological information:**

· **General notes:**

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

• UN-Number	
• DOT, IMDG, IATA	not regulated
• UN proper shipping name	
• DOT, IMDG, IATA	not regulated
• Transport hazard class(es)	
• DOT, ADN, IMDG, IATA	
• Class	not regulated
• Packing group	
• DOT, IMDG, IATA	not regulated
• Environmental hazards:	Not applicable.
• Special precautions for user	Not applicable.
• Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
• UN "Model Regulation":	not regulated

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **Sara**

• Section 355 (extremely hazardous substances):
None of the ingredients is listed.

• Section 313 (Specific toxic chemical listings):
None of the ingredients is listed.

• TSCA (Toxic Substances Control Act):		
CAS: 4180-23-8	(E)-anethole (synthetic)	ACTIVE
CAS: 140-67-0	Estragole	ACTIVE
CAS: 78-70-6	Linalool	ACTIVE
CAS: 80-56-8	alpha-Pinene	ACTIVE
CAS: 4221-98-1	(-)-(R)-.alpha.-Phellandrene	ACTIVE

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CAS: 5989-27-5	(R)-p-mentha-1,8-diene	ACTIVE
CAS: 87-44-5	beta-Caryophyllene	ACTIVE
CAS: 470-82-6	Eucalyptol Cineole	ACTIVE
CAS: 13466-78-9	delta-3-Carene	ACTIVE

• **Hazardous Air Pollutants**

None of the ingredients is listed.

• **Proposition 65**

• **Chemicals known to cause cancer:**

CAS: 140-67-0 | Estragole

• **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

• **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

• **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

• **Carcinogenic categories**

• **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

• **TLV (Threshold Limit Value)**

CAS: 80-56-8 | alpha-Pinene A4

• **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Department issuing SDS:**

Fagron US
Quality Assurance

• **Contact:** QA@fagron.us

• **Date of preparation / last revision** 02/12/2024

• **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flammable Liquids 4: Flammable liquids – Category 4
Sensitization - Skin 1: Skin sensitisation – Category 1
Germ Cell Mutagenicity 1A: Germ cell mutagenicity – Category 1A
Carcinogenicity 2: Carcinogenicity – Category 2

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