

**Safety Data Sheet**  
acc. to OSHA HCS (29 CFR § 1910.1200)



Date of issue: 04/17/2025

Reviewed on 04/17/2025

**1 Identification**

- **Product identifier**
- **Trade name: Thioterpenes Mixture Natural**
- **Other means of identification**
- **Product number: 1359**
- **Application of the substance / the mixture** Flavoring Ingredients
- **Details of the supplier of the safety data sheet**  
DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. Advanced Biotech makes NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the Advanced Biotech product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of an Advanced Biotech product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the Advanced Biotech product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.
- **Manufacturer/Supplier:**  
Advanced Biotech  
10 Taft Road  
Totowa, NJ 07512 USA
- **Information department:**  
Product Safety Department  
productsafety@adv-bio.com
- **Emergency telephone number:**  
Infotrac: 1-800-535-5053 (Domestic) & 1-352-323-3500 (International)  
Email: responders@infotrac.net & During normal business hours: 1-973-339-6242

**2 Hazard(s) identification**

- **Classification of the substance or mixture**
-  GHS02 Flame  
Flammable liquids 3 H226 Flammable liquid and vapor.
-  GHS07  
Skin irritation 2 H315 Causes skin irritation.  
Eye irritation 2A H319 Causes serious eye irritation.  
Sensitization - skin 1 H317 May cause an allergic skin reaction.
- **GHS label elements**  
Pictograms on label shall be in the shape of a square set at a point and shall include a black hazard symbol on a white background with a red frame sufficiently wide to be clearly visible.  
The product is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**

Terpinolene  
 Eucalyptol  
 Proprietary FEMA/GRAS Flavoring Ingredient  
 2,6-Dimethylocta-2,4,6-triene  
 Geranyl formate  
 2,6-Octadien-1-ol, 3,7-dimethyl-, acetate, (E)-

· **Hazard statements**

H226 Flammable liquid and vapor.  
 H315 Causes skin irritation.  
 H319 Causes serious eye irritation.  
 H317 May cause an allergic skin reaction.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P241 Use explosion-proof [electrical/ventilating/lighting] equipment.  
 P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P403+P235 Store in a well-ventilated place. Keep cool.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Information pertaining to particular dangers for man and environment:**

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2  
 Fire = 2  
 Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



HEALTH 2 Health = 2  
 FIRE 2 Fire = 2  
 REACTIVITY 0 Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.  
 · **vPvB:** Not applicable.

· **Classification according to (d)(1)(ii) of § 1910.1200**

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

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· **Hazards not otherwise classified**

There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

**3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

CAS: 586-62-9 EINECS: 209-578-0	Terpinolene ⚠ Skin irritation 2, H315; Sensitization - skin 1, H317; Flammable liquids 4, H227	≥10-≤25%
CAS: 99-86-5 EINECS: 202-795-1	p-Mentha-1,3-diene ⚠ Flammable liquids 3, H226; ⚠ Acute toxicity - oral 4, H302	≥10-≤25%
CAS: 99-85-4 EINECS: 202-794-6	gamma-Terpinene ⚠ Flammable liquids 3, H226	≥10-≤25%
CAS: 5989-27-5 EINECS: 227-813-5	Limonene ⚠ Flammable liquids 3, H226	≥2.5-≤10%
CAS: 470-82-6 EINECS: 207-431-5	Eucalyptol ⚠ Flammable liquids 3, H226; ⚠ Eye irritation 2A, H319; Sensitization - skin 1, H317	≥2.5-≤10%
CAS: 98-55-5 EINECS: 202-680-6	alpha-Terpineol ⚠ Skin irritation 2, H315; ⚠ Eye irritation 2A, H319; Flammable liquids 4, H227	≥0-≤2.5%
CAS: 99-87-6 EINECS: 202-796-7	p-Cymene ⚠ Flammable liquids 3, H226; ⚠ Acute toxicity - inhalation 3, H331	≥0-≤2.5%
	Proprietary FEMA/GRAS Flavoring Ingredient ⚠ Flammable liquids 3, H226; ⚠ Skin irritation 2, H315; Sensitization - skin 1, H317	≥1-≤2.5%
CAS: 673-84-7 EINECS: 211-614-5	2,6-Dimethylocta-2,4,6-triene ⚠ Acute toxicity - oral 4, H302; ⚠ Skin irritation 2, H315; Sensitization - skin 1, H317; Flammable liquids 4, H227	≥1-≤2.5%
CAS: 7392-19-0 EINECS: 230-983-3	2,2,6-Trimethyl-6-vinyltetrahydropyran ⚠ Flammable liquids 3, H226; ⚠ Eye irritation 2A, H319	≥0-≤2.5%
CAS: 105-86-2 EINECS: 203-339-4	Geranyl formate ⚠ Sensitization - skin 1, H317; Flammable liquids 4, H227	≥0.1-≤1%
CAS: 105-87-3 EINECS: 203-341-5	2,6-Octadien-1-ol, 3,7-dimethyl-, acetate, (E)- ⚠ Skin irritation 2, H315; Sensitization - skin 1, H317	≥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 be sure to 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.

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- **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.
- **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:**  
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.
- **Additional information**  
Cool endangered receptacles with water spray.  
Collect contaminated fire fighting water separately. It must not enter the sewage system.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
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.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

CAS: 5989-27-5	Limonene	15 ppm
CAS: 99-87-6	p-Cymene	120 mg/m <sup>3</sup>

· **PAC-2:**

CAS: 5989-27-5	Limonene	67 ppm
CAS: 99-87-6	p-Cymene	1,300 mg/m <sup>3</sup>

· **PAC-3:**

CAS: 5989-27-5	Limonene	170 ppm
CAS: 99-87-6	p-Cymene	1,900 mg/m <sup>3</sup>

· **Reference to other sections**

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

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**7 Handling and storage**

- **Precautions for safe handling**  
 Ensure good ventilation/exhaustion at the workplace.  
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
 Keep ignition sources away - Do not smoke.  
 Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
 Please refer to the product specification and/or Certificate of Analysis for product storage 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**

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
 The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.  
 At this time, the other constituents have no known exposure limits.

**Proprietary FEMA/GRAS Flavoring Ingredient**

TLV	Long-term value: 112 mg/m <sup>3</sup> , 20 ppm DSEN, A4
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- **Additional information:** The lists that were valid during the creation were used as a basis.
- **Exposure controls**
- **Appropriate engineering controls** No further data; see section 7.
- **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.  
 Avoid contact with the eyes.  
 Avoid contact with the eyes and skin.
- **Breathing equipment:**  
 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 should be based on consideration of the penetration times, rates of diffusion and the degradation

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· **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 determined by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

**9 Physical and chemical properties**

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

· **General Information**

· **Physical state**

Liquid

· **Color:**

According to product specification

· **Odor:**

According to product specification

· **Odor threshold:**

Not determined.

· **Melting point/Melting range:**

Undetermined.

· **Boiling point/Boiling range:**

Undetermined.

· **Flammability:**

Flammable.

· **Explosion limits:**

· **Lower:**

0.7 Vol %

· **Upper:**

6.1 Vol %

· **Flash point:**

53.9 °C (129 °F)

· **Decomposition temperature:**

Not determined.

· **pH-value:**

Not determined.

· **Viscosity:**

· **Kinematic:**

Not determined.

· **Dynamic:**

Not determined.

· **Solubility in / Miscibility with**

· **Water:**

Fully miscible.

· **Partition coefficient (n-octanol/water):**

Not determined.

· **Vapor pressure:**

Not determined.

· **Vapor pressure:**

· **Density at 20 °C (68 °F):**

0.87-0.9 g/cm<sup>3</sup> (7.26015-7.5105 lbs/gal)

· **Relative density**

Not determined.

· **Refractive Index**

· **Vapor density**

Not determined.

· **Particle characteristics**

Not applicable.

· **Other information**

· **Appearance:**

· **Form:**

Liquid

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- **Important information on protection of health and environment, and on safety.**
- **Ignition temperature:** Product is not selfigniting.
- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- **Solvent content:**
- **Organic solvents:** 9-12 %
- **VOC content:** 1-2 %  
17.4-36 g/l / 0.15-0.3 lb/gal
- **Change in condition**
- **Evaporation rate** Not determined.

**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:**

**ATE (Acute Toxicity Estimate)**

Oral	LD50	10,577-13,503 mg/kg
Inhalative	LC50/4 h	485-970 mg/l

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating 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
- **Interactive effects** No interactive effects between components are known.

- **Carcinogenic categories**

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

CAS: 5989-27-5	Limonene	3
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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- **Alternative sources for toxicological information**  
 No non-standard sources for toxicological information where used.

**12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects**
- **Additional ecological information:**
- **General notes:**  
 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.

**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** UN1197
- **UN proper shipping name**
- **DOT, IATA** Extracts, liquid
- **IMDG** EXTRACTS, LIQUID, MARINE POLLUTANT
- **Transport hazard class(es)**
- **DOT**
- **Class** 3 Flammable liquids



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· Label	3
· IMDG	
 	
· Class	3 Flammable liquids
· Label	3
· IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, IMDG, IATA	III
· Environmental hazards:	Product contains environmentally hazardous substances: Terpinolene
· Marine pollutant:	Yes (DOT) Symbol (fish and tree)
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
· Remarks:	Special marking with the symbol (fish and tree).
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Special precautions for user	Warning: Flammable liquids
· Hazard identification number (Kemler code):	30
· EMS Number:	F-E,S-D
· Stowage Category	A
· UN "Model Regulation":	UN 1197 EXTRACTS, LIQUID, 3, III

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**15 Regulatory information**

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- 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):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **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)**

Proprietary FEMA/GRAS Flavoring Ingredient

A4

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

None of the ingredients is listed.

· **GHS label elements**

Pictograms on label shall be in the shape of a square set at a point and shall include a black hazard symbol on a white background with a red frame sufficiently wide to be clearly visible.  
 The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**

- Terpinolene
- Eucalyptol
- Proprietary FEMA/GRAS Flavoring Ingredient
- 2,6-Dimethylocta-2,4,6-triene

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Geranyl formate

2,6-Octadien-1-ol, 3,7-dimethyl-, acetate, (E)-

· **Hazard statements**

H226 Flammable liquid and vapor.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **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.

· **Relevant phrases**

H226 Flammable liquid and vapor.

H227 Combustible liquid.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

· **Department issuing SDS:** Product Safety Department

· **Contact:**

Product Safety Department

productsafety@adv-bio.com

· **Date of previous version** 01/24/2025

· **Date of preparation** 04/17/2025

· **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)

HMS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

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OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Flammable liquids 3: Flammable liquids – Category 3  
Flammable liquids 4: Flammable liquids – Category 4  
Acute toxicity - oral 4: Acute toxicity – Category 4  
Acute toxicity - inhalation 3: Acute toxicity – Category 3  
Skin irritation 2: Skin corrosion/irritation – Category 2  
Eye irritation 2A: Serious eye damage/eye irritation – Category 2A  
Sensitization - skin 1: Skin sensitisation – Category 1

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