

Printing date 12.11.2024 Version number 1 Revision: 12.11.2024

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

- · 1.1 Product identifier
- · Trade name: Lemon Oil 5X Recon
- · Product number: 3055
- 1.2 Relevant identified uses of the substance or mixture and uses advised against No further relevant information available.
- Application of the substance / the mixture Flavoring Ingredients
- 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Advanced Biotech 10 Taft Road Totowa, NJ 07512 USA

· Further information obtainable from:

Product Safety Department productsafety@adv-bio.com

1.4 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

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction. Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

(Contd. on page 2)



Printing date 12.11.2024 Version number 1 Revision: 12.11.2024

Trade name: Lemon Oil 5X Recon

· Hazard pictograms











GHS02 GHS07 GHS08

· Signal word Warning

· Hazard-determining components of labelling:

LIMONENE

gamma-Terpinene

Neryl acetate

Citral

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

Beta Pinene

Linalool

Citronellal

Nerol

4-Terpinenol

· Hazard statements

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H361 Suspected of damaging fertility or the unborn child.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

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.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with

water [or shower].

P405 Store locked up.

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

regulations.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

PBT: Not applicable.vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

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

(Contd. on page 3)



Printing date 12.11.2024 Version number 1 Revision: 12.11.2024

Trade name: Lemon Oil 5X Recon

		(Contd. of pag
· Dangerous components:		
CAS: 5989-27-5	LIMONENE	50-100%
EINECS: 227-813-5	H317; Aquatic Chronic 3, H412	
CAS: 99-85-4 EINECS: 202-794-6	gamma-Terpinene Flam. Liq. 3, H226; & Repr. 2, H361; & Aquatic Chronic 2, H411 ATE: LD50 oral: 3,650 mg/kg	≥10-<25%
CAS: 141-12-8 EINECS: 205-459-2	Neryl acetate Skin Sens. 1B, H317	2.5-10%
CAS: 5392-40-5 EINECS: 226-394-6	Citral ♦ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317 ATE: LD50 dermal: 2,250 mg/kg	≥2.5-<10%
CAS: 98-55-5 EINECS: 202-680-6	alpha-Terpineol Skin Irrit. 2, H315; Eye Irrit. 2, H319 ATE: LD50 oral: 4,300 mg/kg	≤2.5%
CAS: 105-87-3 EINECS: 203-341-5	2,6-Octadien-1-ol, 3,7-dimethyl-, acetate, (E)- Skin Irrit. 2, H315; Skin Sens. 1B, H317; Aquatic Chronic 3, H412	≥1-<2.5%
CAS: 127-91-3 EINECS: 204-872-5	Beta Pinene Flam. Liq. 3, H226; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Skin Sens. 1B, H317	≥1-<2.5%
CAS: 78-70-6 EINECS: 201-134-4	Linalool Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1B, H317 ATE: LD50 oral: 2,790 mg/kg	≥0.1-<1%
CAS: 106-23-0 EINECS: 203-376-6	Citronellal Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1B, H317 ATE: LD50 oral: 2,500 mg/kg LD50 dermal: 2,500 mg/kg	≥0.1-<1%
CAS: 123-35-3 EINECS: 204-622-5	Myrcene Flam. Liq. 3, H226; Aquatic Acute 1, H400; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319	≥0.25-<2.5
CAS: 106-25-2 EINECS: 203-378-7	Nerol Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1B, H317 ATE: LD50 oral: 4,500 mg/kg	≥0.1-<1%
CAS: 562-74-3 EINECS: 209-235-5	4-Terpinenol Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H336 ATE: LD50 oral: 1,300 mg/kg LD50 dermal: 2,500 mg/kg LC50/4 h inhalative: 1.5 mg/l	≥0.1-<1%
CAS: 13877-91-3 EINECS: 237-641-2	2, H411; 1 Skin Irrit. 2, H315 ATE: LD50 oral: 5,000 mg/kg	<0.25%
CAS: 87-44-5 EINECS: 201-746-1	beta-Caryophyllene Skin Sens. 1B, H317	≥0.1-<1%



Printing date 12.11.2024 Version number 1 Revision: 12.11.2024

Trade name: Lemon Oil 5X Recon

(Contd. of page 3)

· Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 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.
- After eye contact: Rinse opened eye for several minutes under running water.
- · After swallowing: If symptoms persist consult doctor.
- · 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
- Suitable extinguishing agents:

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- For safety reasons unsuitable extinguishing agents: Water with full jet
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- 5.3 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.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· 6.2 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.

Do not allow to enter sewers/ surface or ground water.

· 6.3 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.

6.4 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.

C D



Printing date 12.11.2024 Version number 1 Revision: 12.11.2024

Trade name: Lemon Oil 5X Recon

(Contd. of page 4)

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

- · 7.2 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 container tightly sealed.
- · 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- · 8.1 Control parameters
- Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · Additional information: The lists valid during the making were used as a basis.
- · 8.2 Exposure controls
- · Appropriate engineering controls No further data; see section 7.
- · Individual protection measures, such as 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.

Store protective clothing separately.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· Hand protection



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

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.

(Contd. on page 6)



Printing date 12.11.2024 Revision: 12.11.2024 Version number 1

Trade name: Lemon Oil 5X Recon

· Penetration time of glove material

(Contd. of page 5)

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

· Eye/face protection



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state Fluid

· Colour: According to product specification · Odour: According to product specification

· Odour threshold: Not determined. · Melting point/freezing point: Undetermined.

· Boiling point or initial boiling point and boiling

range Undetermined. Flammable. · Flammability

· Lower and upper explosion limit

· Lower: Not determined. · Upper: Not determined.

· Flash point: 46.1 °C (CAS: 84929-31-7 Lemon oil)

· Decomposition temperature: Not determined. Not determined. · pH

· Viscosity:

· Kinematic viscosity Not determined. · Dynamic: Not determined.

· Solubility

· water: Not miscible or difficult to mix.

· Partition coefficient n-octanol/water (log value) Not determined. · Vapour pressure: Not determined.

· Density and/or relative density

Density at 20 °C: 0.835-0.86 g/cm3 · Relative density Not determined. · Refractive Index

· Vapour density Not determined.

9.2 Other information

· Appearance:

· Form: Liquid

· Important information on protection of health

and environment, and on safety.

· Ignition temperature: Product is not selfigniting.

Explosive properties: Product is not explosive. However, formation of

explosive air/vapour mixtures are possible.

· Solvent content:

Organic solvents: 67.4 %

(Contd. on page 7)



Printing date 12.11.2024 Version number 1 Revision: 12.11.2024

Trade name: Lemon Oil 5X Recon

(Contd. of page 6)

· VOC (EC)	67.39 %
Solids content:	0.0 %

Change in condition

· Evaporation rate Not determined.

· Information with regard to physical hazard classes

Explosives
Flammable gases
Aerosols
Oxidising gases
Gases under pressure
Void
Void

Flammable liquids Flammable liquid and vapour.

Flammable solids
 Self-reactive substances and mixtures
 Pyrophoric liquids
 Pyrophoric solids
 Self-heating substances and mixtures

· Substances and mixtures, which emit

flammable gases in contact with water

Oxidising liquids
Oxidising solids
Organic peroxides
Corrosive to metals
Desensitised explosives
Void
Void
Void

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

- · 10.3 Possibility of hazardous reactions No dangerous reactions known.
- 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

- · 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
- · Acute toxicity Based on available data, the classification criteria are not met.
- · LD/LC50 values relevant for classification:

CAS: 5989-27-5 LIMONENE

Oral LD50 4,400 mg/kg (rat)

- · Primary irritant effect:
- · Skin corrosion/irritation Causes skin irritation.
- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- · Respiratory or skin sensitisation May cause an allergic skin reaction.
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.

(Contd. on page 8)



Printing date 12.11.2024 Version number 1 Revision: 12.11.2024

Trade name: Lemon Oil 5X Recon

(Contd. of page 7)

- · Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Suspected of damaging fertility or the unborn child.
- STOT-single exposure Based on available data, the classification criteria are not met.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard Based on available data, the classification criteria are not met.
- · 11.2 Information on other hazards
- · Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- · 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- 12.5 Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- 12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

- · 12.7 Other adverse effects
- · Remark:

Very toxic for fish

Toxic for fish

- · Additional ecological information:
- General notes:

Water hazard class 3 (German Regulation) (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.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

Toxic for aquatic organisms

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- Uncleaned packaging:
- · Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR, IMDG, IATA UN1197

(Contd. on page 9)



Revision: 12.11.2024 Printing date 12.11.2024 Version number 1

Trade name: Lemon Oil 5X Recon

· Limited quantities (LQ)

Excepted quantities (EQ)

(Contd. of page 8) · 14.2 UN proper shipping name · ADR 1197 EXTRACTS, LIQUID · IMDG EXTRACTS, LIQUID ·IATA Extracts, liquid · 14.3 Transport hazard class(es) · ADR 3 (F1) Flammable liquids. · Label · IMDG, IATA · Class 3 Flammable liquids. · Label · 14.4 Packing group · ADR, IMDG, IATA Ш · 14.5 Environmental hazards: Product contains environmentally hazardous substances: LIMONENE · 14.6 Special precautions for user Warning: Flammable liquids. · Hazard identification number (Kemler code): 30 · EMS Number: F-E,S-D Stowage Category · 14.7 Maritime transport in bulk according to **IMO** instruments Not applicable. · Transport/Additional information: · 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 · Transport category · Tunnel restriction code D/E

5L

Code: E1

Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml



Printing date 12.11.2024 Version number 1 Revision: 12.11.2024

Trade name: Lemon Oil 5X Recon

(Contd. of page 9)

· UN "Model Regulation": UN 1197 EXTRACTS, LIQUID, 3, III

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Poisons Act
- Regulated explosives precursors

None of the ingredients is listed.

Regulated poisons

None of the ingredients is listed.

Reportable explosives precursors

None of the ingredients is listed.

· Reportable poisons

None of the ingredients is listed.

· Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms









GHS02 GHS07 GHS08 GHS09

- Signal word Warning
- · Hazard-determining components of labelling:

LIMONENE

gamma-Terpinene

Neryl acetate

Citral

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

Beta Pinene

Linalool

Citronellal

Nerol

4-Terpinenol

· Hazard statements

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H361 Suspected of damaging fertility or the unborn child.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

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.

(Contd. on page 11)



Printing date 12.11.2024 Version number 1 Revision: 12.11.2024

Trade name: Lemon Oil 5X Recon

(Contd. of page 10)

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with

water [or shower].

P405 Store locked up.

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

regulations.

- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- Seveso category

E1 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

- · Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t
- · Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment Annex II

None of the ingredients is listed.

- · REGULATION (EU) 2019/1148
- · Annex I RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

· Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 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 vapour.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H336 May cause drowsiness or dizziness.
- H361 Suspected of damaging fertility or the unborn child.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.
- · Department issuing SDS: Product safety department

(Contd. on page 12)



Printing date 12.11.2024 Version number 1 Revision: 12.11.2024

Trade name: Lemon Oil 5X Recon

(Contd. of page 11)

· Contact:

Product Safety Department productsafety@adv-bio.com

· 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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

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

ATE: Acute toxicity estimate values

Flam. Liq. 3: Flammable liquids - Category 3

Acute Tox. 4: Acute toxicity - Category 4

Skin Irrit. 2: Skin corrosion/irritation - Category 2

Eye Irrit. 2: Serious eye damage/eye irritation - Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1B: Skin sensitisation - Category 1B

Repr. 2: Reproductive toxicity - Category 2

STOT SE 3: Specific target organ toxicity (single exposure) - Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard - Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard - Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard - Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3

- GB