

Printing date 11/12/2024 Reviewed on 11/12/2024

1 Identification

· Product identifier

· Trade name: Lime Oil 4X Recon

· Product number: 3054

· Application of the substance / the mixture Flavoring Ingredients

· Details of the supplier of the safety data sheet

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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.



GHS08 Health hazard

Toxic to Reproduction 2 H361 Suspected of damaging fertility or the unborn child.



GHS07

Skin Irritation 2 H315 Causes skin 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).

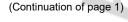
(Continued on page 2)



Printing date 11/12/2024 Reviewed on 11/12/2024

Trade name: Lime Oil 4X Recon

· Hazard pictograms









GHS02 GHS07

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

LIMONENE

gamma-Terpinene

Beta Pinene

Lime oil

Citral

4-Terpinenol

alpha-Pinene

· Hazard statements

H226 Flammable liquid and vapor.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H361 Suspected of damaging fertility or the unborn child.

· Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

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

water/shower.

P405 Store locked up.

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

regulations.

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 1 Fire = 2 Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 1 Fire = 2

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.

(Continued on page 3)



Printing date 11/12/2024 Reviewed on 11/12/2024

Trade name: Lime Oil 4X Recon

		1 0
Dangerous compo	nents:	
CAS: 5989-27-5	LIMONENE	50-100
EINECS: 227-813-5	Flammable Liquids 3, H226; ♦ Skin Irritation 2, H315; Sensitization - Skin 1B, H317	
CAS: 99-85-4	gamma-Terpinene	10-25%
EINECS: 202-794-6	Flammable Liquids 3, H226; 🍪 Toxic to Reproduction 2, H361	
CAS: 127-91-3	Beta Pinene	10-25%
EINECS: 204-872-5	Flammable Liquids 3, H226; Skin Irritation 2, H315; Sensitization - Skin 1B, H317	
CAS: 5392-40-5	Citral	≥1-≤2.5
EINECS: 226-394-6	Skin Irritation 2, H315; Eye Irritation 2A, H319; Sensitization - Skin 1, H317	
CAS: 80-56-8	alpha-Pinene	≥1-≤2.5
EINECS: 201-291-9	Flammable Liquids 3, H226; Acute Toxicity - Oral 4, H302; Skin Irritation 2, H315; Sensitization - Skin 1B, H317	
CAS: 98-55-5	alpha-Terpineol	≤2.5%
EINECS: 202-680-6	Skin Irritation 2, H315; Eye Irritation 2A, H319; Flammable liquids 4, H227	
CAS: 123-35-3	Myrcene	≤2.5%
EINECS: 204-622-5	Flammable Liquids 3, H226; Skin Irritation 2, H315; Eye Irritation 2A, H319	
CAS: 90063-52-8	Lime oil	≥1-≤2.5
EINECS: 290-010-3	Flammable Liquids 3, H226; Toxic to Reproduction 2, H361; Aspiration Hazard 1, H304; Skin Irritation 2, H315; Sensitization - Skin 1B, H317	
CAS: 141-12-8	Neryl acetate	≥0.1-<1
EINECS: 205-459-2	♦ Sensitization - Skin 1B, H317	
CAS: 87-44-5	beta-Caryophyllene	≥0.1-<1
EINECS: 201-746-1	♦ Sensitization - Skin 1B, H317	
CAS: 105-87-3	2,6-Octadien-1-ol, 3,7-dimethyl-, acetate, (E)-	≥0.1-<1
EINECS: 203-341-5	Skin Irritation 2, H315; Sensitization - Skin 1B, H317	
CAS: 562-74-3	4-Terpinenol	≥0.1-<1
EINECS: 209-235-5		
	Skin Irritation 2, H315; Sensitization - Skin 1, H317; Specific Target	
	Organ Toxicity - Single Exposure 3, H336; Flammable liquids 4, H227	
CAS: 78-70-6	Linalool	≥0.1-<1
EINECS: 201-134-4	Skin Irritation 2, H315; Eye Irritation 2A, H319; Sensitization - Skin 1B, H317; Flammable liquids 4, H227	
CAS: 106-25-2	Nerol	≥0.1-<1
EINECS: 203-378-7	Skin Irritation 2, H315; Eye Irritation 2A, H319; Sensitization - Skin	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.

(Continued on page 4)



Printing date 11/12/2024 Reviewed on 11/12/2024

Trade name: Lime Oil 4X Recon

(Continuation of page 3)

- · 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.
- 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:

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

- For safety reasons unsuitable extinguishing agents: Water with full jet
- · 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: 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.

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 LIMONENE	15 ppm
· PAC-2:	
CAS: 5989-27-5 LIMONENE	67 ppm
· PAC-3:	
CAS: 5989-27-5 LIMONENE	170 ppm

7 Handling and storage

- · Handling:
- Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

(Continued on page 5)



Printing date 11/12/2024 Reviewed on 11/12/2024

Trade name: Lime Oil 4X Recon

(Continuation of page 4)

Prevent formation of aerosols.

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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	s: 127-91-3 Beta Pinene
TLV	Long-term value: 20 ppm DSEN, A4
CAS	: 5392-40-5 Citral
TLV	Long-term value: 5* ppm Skin; DSEN; *inh. fraction + vapor, A4
CAS	: 80-56-8 alpha-Pinene
TLV	Long-term value: 20 ppm DSEN, A4
A -1 -1	itional information. The lists that were valid during the question were used as a basic

- · Additional information: The lists that were valid during the creation were used as a 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.

Store protective clothing separately.

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.

(Continued on page 6)



Printing date 11/12/2024 Reviewed on 11/12/2024

Trade name: Lime Oil 4X Recon

(Continuation of page 5)

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.

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 or	n basic physica	I and chemical	properties
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· General Information

· Appearance:

Form: Liquid

Color: According to product specification
Odor: According to product specification

· Odor threshold: Not determined.

· pH-value: Not determined.

· Change in condition

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

• **Flash point:** 46.1 °C (115 °F)

· Flammability: Flammable.

Decomposition temperature: Not determined.Ignition temperature: Product is not selfigniting.

• Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower: Not determined. Upper: Not determined.

· Vapor pressure: Not determined.

Density at 20 °C (68 °F): 0.835-0.86 g/cm³ (6.96808-7.1767 lbs/gal)

Relative density
 Vapor density
 Evaporation rate
 Not determined.
 Not determined.

(Continued on page 7)



Printing date 11/12/2024 Reviewed on 11/12/2024

Trade name: Lime Oil 4X Recon

		(Continuation of page
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.	
· Partition coefficient (n-octano	ol/water): Not determined.	
Viscosity:		7.
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	64.5 %	
VOC content:	0.00 %	
	0.0 g/l / 0.00 lb/gal	
Solids content:	0.0 %	
· 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:

	riouto terriory.
	· LD/LC50 values that are relevant for classification:
Γ	ATE (Acute Toxicity Estimate)
	Oral LD50 18,750-231,250 mg/kg

CAS: 5989-27-5 LIMONENE

Oral LD50 4,400 mg/kg (rat)

- Primary irritant effect:
- · on the skin: No irritant effect.
- on the eye: No 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

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)	
CAS: 5989-27-5 LIMONENE	3

(Continued on page 8)



Printing date 11/12/2024 Reviewed on 11/12/2024

Trade name: Lime Oil 4X Recon (Continuation of page 7) CAS: 123-35-3 Myrcene 2B · 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.
- · 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.

- Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

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.

UN-Number		
DOT, IMDG, IATA	UN1197	
UN proper shipping name		
DOT	Extracts, flavoring, liquid	
IMDG	EXTRACTS, LIQUID	
IATA	Extracts, liquid	



Printing date 11/12/2024 Reviewed on 11/12/2024

Trade name: Lime Oil 4X Recon

(Continuation of page 8)

· Transport hazard class(es)

· DOT



· Class 3 Flammable liquids

· Label 3

· IMDG, IATA



· Class 3 Flammable liquids

Label

· Packing group

· DOT, IMDG, IATA

• Environmental hazards: Product contains environmentally hazardous

substances: LIMONENE

· Special precautions for user Warning: Flammable liquids

Hazard identification number (Kemler code): 30

· EMS Number: F-E,S-D

· Stowage Category A

· 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

· 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

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

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.

(Continued on page 10)



Printing date 11/12/2024 Reviewed on 11/12/2024

Trade name: Lime Oil 4X Recon

	•	ition of pag
• •	ecific toxic chemical listings):	
None of the ingre		
•	bstances Control Act):	
CAS: 5989-27-5	LIMONENE	ACTIV
CAS: 99-85-4	gamma-Terpinene	ACTIV
CAS: 127-91-3	Beta Pinene	ACTIV
CAS: 5392-40-5	Citral	ACTIV
CAS: 80-56-8	alpha-Pinene	ACTIV
CAS: 98-55-5	alpha-Terpineol	ACTIV
CAS: 123-35-3	Myrcene	ACTIV
CAS: 141-12-8	Neryl acetate	ACTIV
CAS: 87-44-5	beta-Caryophyllene	ACTIV
CAS: 105-87-3	2,6-Octadien-1-ol, 3,7-dimethyl-, acetate, (E)-	ACTIV
CAS: 78-70-6	Linalool	ACTIV
CAS: 106-25-2	Nerol	ACTIV
CAS: 13877-91-3	Ocimene	ACTIV
· Proposition 65 · Chemicals know CAS: 123-35-3	vn to cause cancer: Nyrcene	
Chemicals know	n to cause reproductive toxicity for females:	
None of the ingre	dients is listed.	
	n to cause reproductive toxicity for males:	
None of the ingre		
	n to cause developmental toxicity:	
None of the ingre	dients is listed.	
· Carcinogenic ca		
	ental Protection Agency)	
None of the ingre	<u>/ / </u>	
TLV (Threshold		
CAS: 127-91-3 E		A
	llpha-Pinene	P
	onal Institute for Occupational Safety and Health)	
None of the ingre	dients is listed.	

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).

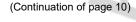
(Continued on page 11)



Printing date 11/12/2024 Reviewed on 11/12/2024

Trade name: Lime Oil 4X Recon

· Hazard pictograms









GHS02 GHS07 GH

· Signal word Warning

· Hazard-determining components of labeling:

LIMONENE

gamma-Terpinene

Beta Pinene

Lime oil

Citral

4-Terpinenol

alpha-Pinene

Hazard statements

H226 Flammable liquid and vapor.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H361 Suspected of damaging fertility or the unborn child.

· Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

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

water/shower.

P405 Store locked up.

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.

H304 May be fatal if swallowed and enters airways.

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.

Department issuing SDS: Product Safety Department

· Contact:

Product Safety Department productsafety@adv-bio.com

(Continued on page 12)



Printing date 11/12/2024 Reviewed on 11/12/2024

Trade name: Lime Oil 4X Recon

(Continuation of page 11)

· Date of preparation / last revision 11/12/2024 / -

· 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, ÉU)

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

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

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

Sensitization - Skin 1B: Skin sensitisation - Category 1B Toxic to Reproduction 2: Reproductive toxicity - Category 2

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) - Category 3

Aspiration Hazard 1: Aspiration hazard - Category 1