

Printing date 11/12/2024

Reviewed on 11/12/2024

## 1 Identification

### · Product identifier

- Trade name: Lemon Oil 5X Recon
- Product number: 3055
- · 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.



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).

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## 3 Composition/information on ingredients

#### · Chemical characterization: Mixtures

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

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<ul> <li>Dangerous compor</li> </ul>	nents:	
CAS: 5989-27-5 EINECS: 227-813-5	LIMONENE Flammable Liquids 3, H226; () Skin Irritation 2, H315; Sensitization - Skin 1B, H317	50-100%
CAS: 99-85-4 EINECS: 202-794-6	gamma-Terpinene Flammable Liquids 3, H226; Invic to Reproduction 2, H361	10-25%
CAS: 141-12-8 EINECS: 205-459-2	Neryl acetate ♦ Sensitization - Skin 1B, H317	2.5-10%
CAS: 5392-40-5 EINECS: 226-394-6	Citral Skin Irritation 2, H315; 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	≤2.5%
CAS: 105-87-3 EINECS: 203-341-5	2,6-Octadien-1-ol, 3,7-dimethyl-, acetate, (E)-	≥1-≤2.5%
CAS: 127-91-3 EINECS: 204-872-5	Beta Pinene Flammable Liquids 3, H226; () Skin Irritation 2, H315; Sensitization - Skin 1B, H317	≥1-≤2.5%
CAS: 78-70-6 EINECS: 201-134-4	Linalool Skin Irritation 2, H315; Eye Irritation 2A, H319; Sensitization - Skin 1B, H317; Flammable liquids 4, H227	≥0.1-<1%
CAS: 106-23-0 EINECS: 203-376-6	Citronellal Skin Irritation 2, H315; Eye Irritation 2A, H319; Sensitization - Skin 1B, H317; Flammable liquids 4, H227	≥0.1-<1%
CAS: 106-25-2 EINECS: 203-378-7	Nerol Skin Irritation 2, H315; Eye Irritation 2A, H319; Sensitization - Skin 1B, H317	≥0.1-<1%
CAS: 562-74-3 EINECS: 209-235-5	4-Terpinenol Acute Toxicity - Oral 4, H302; Acute Toxicity - Inhalation 4, H332; Skin Irritation 2, H315; Sensitization - Skin 1, H317; Specific Target Organ Toxicity - Single Exposure 3, H336; Flammable liquids 4, H227	≥0.1-<1%
CAS: 87-44-5 EINECS: 201-746-1	beta-Caryophyllene Sensitization - Skin 1B, 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.
- · 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.

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• 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
CAS: 124-19-6	Nonanal	0.86 mg/m³
CAS: 112-31-2	Decanal	1.8 ppm
CAS: 124-13-0	Octanal	17 mg/m³
CAS: 99-87-6	p-Cymene	120 mg/m <sup>3</sup>
PAC-2:	U.	
CAS: 5989-27-5	LIMONENE	67 ppm
CAS: 124-19-6	Nonanal	9.5 mg/m <sup>3</sup>
CAS: 112-31-2	Decanal	120 mg/m3
CAS: 124-13-0	Octanal	190 mg/m³
CAS: 99-87-6	p-Cymene	1,300 mg/m <sup>3</sup>
PAC-3:		
CAS: 5989-27-5	LIMONENE	170 ppm
CAS: 124-19-6	Nonanal	410 mg/m <sup>3</sup>
CAS: 112-31-2	Decanal	740 mg/m3
CAS: 124-13-0	Octanal	1,100 mg/m³
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(Continuation of page 4) 1,900 mg/m<sup>3</sup>

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CAS: 99-87-6 p-Cymene

## 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 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: 5392-40-5 Citral

TLV Long-term value: 5\* ppm Skin; DSEN; \*inh. fraction + vapor, A4

#### CAS: 127-91-3 Beta Pinene

TLV Long-term value: 20 ppm

DSEN, A4

• 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.

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### · 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

### • 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

Information on basic physical and	chemical properties
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 a vapor mixtures are possible.
Explosion limits:	
Lower:	Not determined.



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	(Continuation of page	
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	Not determined.	
Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Not miscible or difficult to mix.	
Partition coefficient (n-octanol/wa	ater): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
Solvent content:		
Organic solvents:	67.4 %	
VOC content:	0.01 %	
	0.1 g/l / 0 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:
- · LD/LC50 values that are relevant for classification:

### 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:

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

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Irritant		
· Carcinogenic ca	Itegories	
· IARC (Internatio	nal Agency for Research on Cancer)	
CAS: 5989-27-5	LIMONENE	3
CAS: 123-35-3	Myrcene	2B
· NTP (National T	oxicology Program)	
None of the ingre	dients is listed.	
· OSHA-Ca (Occu	pational Safety & Health Administration)	
None of the ingre	dients 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	



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Transport hazard class(es)	
DOT	
	$\overline{\alpha}$
Class	3 Flammable liquids
Label	3
IMDG, IATA	
Class	3 Flammable liquids
Label	3
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)	
EMS Number: Stowage Category	F-E,S-D 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
<b>_</b>	On cargo aircraft only: 220 L
IMDG	
Limited quantities (LQ)	5L October 51
Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 30 ml
UN "Model Regulation":	UN 1197 EXTRACTS, LIQUID, 3, III

### 15 Regulatory information

 $^{\rm \cdot}$  Safety, health and environmental regulations/legislation specific for the substance or mixture  $^{\rm \cdot}$  Sara

• Section 355 (extremely hazardous substances):

None of the ingredients is listed.

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	ecific toxic chemical listings):	
None of the ingre		
	ibstances Control Act):	
CAS: 5989-27-5		ACTIVE
CAS: 99-85-4	gamma-Terpinene	ACTIVE
CAS: 141-12-8	Neryl acetate	ACTIVE
CAS: 5392-40-5	Citral	ACTIVE
CAS: 98-55-5	alpha-Terpineol	ACTIVE
CAS: 105-87-3	2,6-Octadien-1-ol, 3,7-dimethyl-, acetate, (E)-	ACTIVE
CAS: 127-91-3	Beta Pinene	ACTIVE
CAS: 78-70-6	Linalool	ACTIVE
CAS: 106-23-0	Citronellal	ACTIVE
CAS: 123-35-3	Myrcene	ACTIVE
CAS: 106-25-2	Nerol	ACTIVE
CAS: 124-19-6	Nonanal	ACTIVE
CAS: 112-31-2	Decanal	ACTIVE
CAS: 13877-91-3	3 Ocimene	ACTIVE
CAS: 87-44-5	beta-Caryophyllene	ACTIVE
CAS: 150-84-5	Citronellyl acetate	ACTIVE
CAS: 80-56-8	alpha-Pinene	ACTIVE
CAS: 121-33-5	Vanillin	ACTIVE
CAS: 124-13-0	Octanal	ACTIVE
CAS: 99-87-6	p-Cymene	ACTIVE
CAS: 586-62-9	Terpinolene	ACTIVE
CAS: 99-86-5	p-Mentha-1,3-diene	ACTIVE
Hazardous Air F	Pollutants	
None of the ingre	edients is listed.	
Proposition 65		
Chemicals know	wn to cause cancer:	
CAS: 123-35-3	Myrcene	
Chemicals know	wn to cause reproductive toxicity for females:	
None of the ingre		
Chemicals know	wn to cause reproductive toxicity for males:	
None of the ingre		
	wn to cause developmental toxicity:	
None of the ingre		
Carcinogenic ca	ategories	
EPA (Environm	ental Protection Agency)	
None of the ingre	edients is listed.	
TLV (Threshold	Limit Value)	
CAS: 127-91-3		A4



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CAS: 80-56-8		Continuation of page 10)
		7.4
•	lational Institute for Occupational Safety and Health)	
	ngredients is listed.	
symbol on a v	on label shall be in the shape of a square set at a point and shall incl white background with a red frame sufficiently wide to be clearly visible. s classified and labeled according to the Globally Harmonized System (	
GHS02 GH	IS07 GHS08	
Signal word	Warning	
LIMONENE gamma-Terpi Neryl acetate Citral 4-Terpinenol 2,6-Octadien-		
	able liquid and vapor.	
H317 May ca H361 Suspec	s skin irritation. use an allergic skin reaction. sted of damaging fertility or the unborn child.	
Precautional P210 P241	ry statements Keep away from heat/sparks/open flames/hot surfaces No smo Use explosion-proof electrical/ventilating/lighting/equipment.	king.
P261 P303+P361+	Avoid breathing dust/fume/gas/mist/vapors/spray P353 If on skin (or hair): Take off immediately all contaminated clothi water/shower.	ng. Rinse skin with
P405 P501	Store locked up. Dispose of contents/container in accordance with local/regional/n regulations.	ational/international
Chomical sa	fety assessment: A Chemical Safety Assessment has not been carried	tout

# 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.

H332 Harmful if inhaled.

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

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#### Trade name: Lemon Oil 5X Recon (Continuation of page 11) 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 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, 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 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