

# Safety Data Sheet

acc. to OSHA HCS (29 CFR § 1910.1200)

Printing date 11/12/2024

Reviewed on 11/12/2024

## 1 Identification

- **Product identifier**

- **Trade name:** Orange Oil 1X Recon

- **Product number:** 3051

- **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.



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).

- **Hazard pictograms**



GHS02



GHS07

- **Signal word** Warning

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

LIMONENE  
Orange oil  
Citral

· **Hazard statements**

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

· **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.  
P403+P235 Store in a well-ventilated place. Keep cool.  
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 Health = 1  
FIRE 2 Fire = 2  
REACTIVITY 0 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: 5989-27-5 EINECS: 227-813-5	LIMONENE ⚠ Flammable Liquids 3, H226; ⚠ Skin Irritation 2, H315; Sensitization - Skin 1B, H317	50-100%
CAS: 8008-57-9 EC number: 307-891-8	Orange oil ⚠ Flammable Liquids 3, H226; ⚠ Aspiration Hazard 1, H304; ⚠ Skin Irritation 2, H315; Sensitization - Skin 1, 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: 5392-40-5 EINECS: 226-394-6	Citral ⚠ Skin Irritation 2, H315; Eye Irritation 2A, H319; Sensitization - Skin 1, H317	≥0.1-<1%

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#### 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.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

#### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, 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: 112-31-2	Decanal	1.8 ppm
	Proprietary FEMA/GRAS Flavoring Ingredient	1,200 ppm
CAS: 124-13-0	Octanal	17 mg/m <sup>3</sup>
CAS: 111-87-5	1-Octanol	5 ppm

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CAS: 124-19-6	Nonanal	0.86 mg/m <sup>3</sup>
CAS: 143-08-8	Nonyl alcohol	11 mg/m <sup>3</sup>
<b>· PAC-2:</b>		
CAS: 5989-27-5	LIMONENE	67 ppm
CAS: 112-31-2	Decanal	120 mg/m <sup>3</sup>
	Proprietary FEMA/GRAS Flavoring Ingredient	1,700 ppm
CAS: 124-13-0	Octanal	190 mg/m <sup>3</sup>
CAS: 111-87-5	1-Octanol	20 ppm
CAS: 124-19-6	Nonanal	9.5 mg/m <sup>3</sup>
CAS: 143-08-8	Nonyl alcohol	120 mg/m <sup>3</sup>
<b>· PAC-3:</b>		
CAS: 5989-27-5	LIMONENE	170 ppm
CAS: 112-31-2	Decanal	740 mg/m <sup>3</sup>
	Proprietary FEMA/GRAS Flavoring Ingredient	10000** ppm
CAS: 124-13-0	Octanal	1,100 mg/m <sup>3</sup>
CAS: 111-87-5	1-Octanol	150 ppm
CAS: 124-19-6	Nonanal	410 mg/m <sup>3</sup>
CAS: 143-08-8	Nonyl alcohol	710 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **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:** 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 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.

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**CAS: 5392-40-5 Citral**

TLV	Long-term value: 5* ppm Skin; DSEN; *inh. fraction + vapor, A4
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- **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:**  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.
- **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

- **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**

· **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.
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<b>Boiling point/Boiling range:</b>	Undetermined.
· <b>Flash point:</b>	46.1 °C (115 °F)
· <b>Flammability:</b>	Flammable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Ignition temperature:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b> <b>Lower:</b> <b>Upper:</b>	Not determined. Not determined.
· <b>Vapor pressure:</b>	Not determined.
· <b>Density at 20 °C (68 °F):</b> · <b>Relative density</b> · <b>Vapor density</b> · <b>Evaporation rate</b>	0.835-0.86 g/cm <sup>3</sup> (6.96808-7.1767 lbs/gal) Not determined. Not determined. Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b> <b>Dynamic:</b> <b>Kinematic:</b>	Not determined. Not determined.
· <b>Solvent content:</b> <b>Organic solvents:</b> <b>VOC content:</b>	97.3 % 0.20 % 1.7 g/l / 0.01 lb/gal
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	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.

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**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)
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· **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
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CAS: 123-35-3	Myrcene	2B
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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.

**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 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even 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.

**14 Transport information**

<ul style="list-style-type: none"> <li>· UN-Number</li> <li>· DOT, IMDG, IATA</li> </ul>	<p>UN1197</p>
<ul style="list-style-type: none"> <li>· UN proper shipping name</li> <li>· DOT</li> <li>· IMDG</li> <li>· IATA</li> </ul>	<p>Extracts, flavoring, liquid          EXTRACTS, LIQUID          Extracts, liquid</p>
<ul style="list-style-type: none"> <li>· Transport hazard class(es)</li> <li>· DOT</li> </ul>	
 <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	<p>3 Flammable liquids          3</p>
<ul style="list-style-type: none"> <li>· IMDG, IATA</li> </ul>	
 <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	<p>3 Flammable liquids          3</p>
<ul style="list-style-type: none"> <li>· Packing group</li> <li>· DOT, IMDG, IATA</li> </ul>	<p>III</p>
<ul style="list-style-type: none"> <li>· Environmental hazards:</li> </ul>	<p>Product contains environmentally hazardous substances: LIMONENE</p>
<ul style="list-style-type: none"> <li>· Special precautions for user</li> <li>· Hazard identification number (Kemler code):</li> <li>· EMS Number:</li> <li>· Stowage Category</li> </ul>	<p>Warning: Flammable liquids          30          F-E,S-D          A</p>
<ul style="list-style-type: none"> <li>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</li> </ul>	<p>Not applicable.</p>

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· **Transport/Additional information:**

· **DOT**

· **Quantity limitations**

On passenger aircraft/rail: 60 L  
On cargo aircraft only: 220 L

· **IMDG**

· **Limited quantities (LQ)**

· **Excepted quantities (EQ)**

5L  
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.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

CAS: 5989-27-5	LIMONENE	ACTIVE
CAS: 8008-57-9	Orange oil	ACTIVE
CAS: 78-70-6	Linalool	ACTIVE
CAS: 105-54-4	Ethyl butyrate	ACTIVE
CAS: 112-31-2	Decanal	ACTIVE
	Proprietary FEMA/GRAS Flavoring Ingredient	ACTIVE
CAS: 5392-40-5	Citral	ACTIVE
CAS: 4630-07-3	Valencene	ACTIVE
CAS: 4674-50-4	Nootkatone	ACTIVE
CAS: 98-55-5	alpha-Terpineol	ACTIVE
CAS: 124-13-0	Octanal	ACTIVE
CAS: 87-44-5	beta-Caryophyllene	ACTIVE
CAS: 123-35-3	Myrcene	ACTIVE
CAS: 6485-40-1	Carvone	ACTIVE
CAS: 80-56-8	alpha-Pinene	ACTIVE
CAS: 106-25-2	Nerol	ACTIVE
CAS: 111-87-5	1-Octanol	ACTIVE
CAS: 124-19-6	Nonanal	ACTIVE
CAS: 127-91-3	Beta Pinene	ACTIVE
CAS: 141-12-8	Neryl acetate	ACTIVE
CAS: 143-08-8	Nonyl alcohol	ACTIVE

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· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

CAS: 123-35-3 Myrcene

· **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

CAS: 127-91-3 Beta Pinene

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:**

LIMONENE

Orange oil

Citral

· **Hazard statements**

H226 Flammable liquid and vapor.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

· **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.

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

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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.

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.

· **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

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

Aspiration Hazard 1: Aspiration hazard – Category 1