



CERTIFICATE OF ANALYSIS

Product: ORANGE BITTER

Batch No: 4350808

Best Before End: February 2022

Specific Gravity 15°C	: 0,84740
Refractive Index 20°C	: 1,4733
Optical rotation 15°C	: 93,30
Aldehyde Content	: 1,67



## ALLERGEN CERTIFICATE

**PRODUCT NAME : Orange Bitter**

List of 26 "allergens"	CAS Nr.	% OR ppm
2-METHYL-3-(4-(1,1-DIMETHYL ETHYL PHENYL) PROPANAL (LINALIL)	80-54-6	NO
ALPHA METHYL IONONE	127-51-5	NO
AMYL CINNAMIC ALCOHOL	101-85-9	NO
AMYL CINNAMIC ALDEHYDE	122-40-7	NO
ANISYL ALCOHOL	105-13-5	NO
BENZYL ALCOHOL	100-51-6	NO
BENZYL BENZOATE	120-51-4	NO
BENZYL CINNAMATE	103-41-3	NO
BENZYL SALICYLATE	109-85-9	NO
CINNAMIC ALCOHOL	104-54-1	NO
CINNAMIC ALDEHYDE	104-55-2	NO
CITRAL (Neral+Geranial)	5392-40-5	around 1%
CITRONELLOL	106-22-9	NO
COUMARIN	91-64-5	NO
EUGENOL	97-53-0	NO
FARNESOL	46-84-0	NO
GERANIOL	106-24-1	traces
HEXYLCINNAMIC ALDEHYDE	101-86-0	NO
HYDROXYCITRONELLAL	107-75-5	NO
HYDROXYMETHYLPENTTYLCYCLOHEXENE CARBOXALDEHYDE (LIRAL)	31906-04-4	NO
ISOEUGENOL	97-54-1	NO
LIMONENE	5989-27-5	around 95%
LINALOOL	78-70-6	around 0,20%
METHYL HEPTINE CARBONATE	111-12-6	NO
OAKMOSS	90028-68-5	NO
TREEMOSS	90028-67-4	NO



September 26th 2017

**STATEMENT**

WE: MADAR CORPORATION, HEREWITH CERTIFY AND CONFIRM THAT THE ORANGE BITTER  
ESSENTIAL OIL SUPPLIED IS **GMO FREE**



## **CERTIFICATE OF IFRA STATUS**

---

We : MADAR Corporation Limited herewith certify and confirm that the following products:

- Orange Bitter

Comply with the Standards of the Code of Practice of the INTERNATIONAL FRAGRANCE ASSOCIATION (IFRA), provided they are used according to the expected maximum concentration levels mentioned in the existing amendments.

Comply with the latest IFRA specification on LIMONENE.

The IFRA Standards regarding use restrictions are based on safety assessments by the Panel of Experts of the RESEARCH INSTITUTE FOR FRAGRANCE MATERIALS (RIFM) and are enforced by the IFRA Scientific Committee.

It is the ultimate responsibility of our customer to ensure the safety of the final product by further testing if need be.

**SAFETY DATA SHEET**

Safety data sheet according to 1907/2006/EC, Article 31

**1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY UNDERTAKING**
**1.1 Identification of the substance or preparation:**

Trade name: Orange Bitter  
 REACH Registration n°: N/a  
 CLP reference n°: 02-2119763247-33-0000  
 Cas (TSCA): 68916-04-1 Cas (Einecs): 72968-50-4  
 Einecs: 277-143-2

**1.2 Uses of the substance:** Flavours & Fragrances

**1.3 Company / undertaking identification :**

MADAR Corporation Limited  
 19-20 Sandleheath Industrial Estate,  
 Fordingbridge, Hampshire, SP6 1PA, UK

**1.4 Emergency Telephone number:**

For Hazardous Materials Incident, Spill, Leak, Fire, Exposure, or Accident

Call CHEMTREC Day or Night

+(44)-870-8200418

+1 703-741-5970 (anywhere in the world; collect call accepted)

For emergency calls only. Non emergency calls cannot be serviced at these numbers

**2. HAZARDS IDENTIFICATIONS**
**2.1 Classification of the substance:** Essential oil

**2.1.1 Classification according to Regulation (EC) No 1272/2008 (CLP/GHS)**

Hazard classes and Hazard categories	Hazard Statements
Flam. Liq. 3	H226
Skin Irrit. 2	H315
Skin Sens. 1	H317
Asp. Tox. 1	H304
Aquatic Chronic 1	H410

**2.1.2 Classification according to 67/548/EEC and 1999/45/EC**

Xn, N

R10/38/43/50/53/65

**2.1.3 Additional information:**

The product has to be labelled according to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

The classification is according to the latest edition of EU-lists, and added to by company and literature data.

Full text of R-, H- and EUH-phrases: see section 16

**2.2 Label Elements****2.2.1 Labelling according Regulation (EC) No. 1272/2008 (CLP/GHS)****Substance:** Bitter Orange**Hazard component for labelling:** Limonene**Hazard Pictograms****Signal word:**

Danger

**Hazard statements:**

H226: Flammable liquid and vapour

H315: Causes skin irritation

H317: May cause an allergic skin reaction

H304: May be fatal if swallowed and enters airways

H410: Very toxic to aquatic life with long lasting effects

**Precautionary Statements:**

P210: Keep away from heat / sparks/ open flames/ hot surfaces/ no smoking

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

P280: Wear Protective Gloves / protective clothing/ eye protection/ face protection

P273: Avoid release to environment

P301+P310: If swallowed: immediately call a poison center or doctor/physician

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

P331: Do not induce vomiting

P405: Store locked up

P501: Dispose of contents / container in accordance with local regulations.

### 3.COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.1 Description of the mixture: Mixture mainly consisting of the following components:

Cas	Einecs	Range	Name	Classification according to 67/548/EEC
5989-27-5	227-813-5	80-98%	Limonene	R10-38-43-50/53
Cas	Einecs	Range	Name	Classification according to EC 1272/2008 (CLP)
5989-27-5	227-813-5	80-98%	Limonene	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chr. 1, H400 Aquatic Chr. 1, H410

Cas	Einecs	Range	Name	Classification according to 67/548/EEC
123-35-3	204-622-5	0-4%	Myrcene	R10-65
Cas	Einecs	Range	Name	Classification according to EC 1272/2008 (CLP)
123-35-3	204-622-5	0-4%	Myrcene	Flam. Liq. 3, H226 Asp. Tox. 1, H304

Cas	Einecs	Range	Name	Classification according to 67/548/EEC
5392-40-5	226-394-6	0-1%	Citral	R38-43
Cas	Einecs	Range	Name	Classification according to EC 1272/2008 (CLP)
5392-40-5	226-394-6	0-1%	Citral	Skin Irrit. 2, H315 Skin Sens. 1, H317

Cas	Einecs	Range	Name	Classification according to 67/548/EEC
80-56-8	201-291-9	0-1%	Alfa Pinene	R10-43-50/53-65
Cas	Einecs	Range	Name	Classification according to EC 1272/2008 (CLP)
80-56-8	201-291-9	0-1%	Alfa Pinene	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chr. 1, H400 Aquatic Chr. 1, H410

Cas	Einecs	Range	Name	Classification according to 67/548/EEC
112-31-2	203-957-4	0-1%	Decanal	R38-52/53
Cas	Einecs	Range	Name	Classification according to EC 1272/2008 (CLP)
112-31-2	203-957-4	0-1%	Decanal	Skin Irrit. 2, H315 Chr. Haz. 3, H412
Cas	Einecs	Range	Name	Classification according to 67/548/EEC
115-95-7	204-116-4	0-5%	Lynalil Acetate	R51/53
Cas	Einecs	Range	Name	Classification according to EC 1272/2008 (CLP)
115-95-7	204-116-4	0-5%	Lynalil Acetate	Haz. Acq. 2, H411



#### 4. FIRST AID MEASURES

**General information:**

If health disorders happens, call for medical help immediately.

Immediately remove any clothing soiled by the product.

**4.1 Inhalation:** Attend to fresh air. In case of complaints seek medical attention.

**4.2 Skin contact:** In case of contact with skin wash immediately with soap and water.

**4.3 Eye contact:** In case of contact with eyes rinse thoroughly with water.

**4.4 Swallowing:** If swallowed, do not induce vomiting: call for medical help immediately.

#### 5. FIRE-FIGHTING MEASURES

**5.1 Suitable extinguishing media:** CO<sub>2</sub>, alcoholresistant foam

**5.2 Unsuitable extinguishing media:** Water

**5.3 Special exposure hazards arising from the substance or preparation itself, combustion products or resulting gases:** Vapours may form explosive mixture with air.

**5.4 Special protective equipment for fire-fighters:** Wear self-contained breathing apparatus and protective suits.

**Additional information:**

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

#### 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions, protective equipments and emergency procedures**

**6.1.1 Personal precaution:** follow safety measures in Section 7 and 8. Use personal protective equipment.

**6.2 Environmental precautions:** Do not allow to enter canalisation/waterways/groundwater  
Inform respective authorities in case of seepage into water course or sewage system.

**6.3 Clean up methods:** Soak up with absorbent, inert material (sand, universal binders) and dispose contaminated material as waste according to section 13.

Dispose of in accordance with federal, state and local environmental regulations.

**Reference to other sections:** Keep ignition source away, do not smoke and avoid flames.

## 7. HANDLING AND STORAGE

**7.1 Precautions for safe handling:** Use only in well ventilated area. Avoid contact with skin, eyes and clothing. NO SMOKING.

**7.2 Information on fire and explosion protection:** Keep away from possible sources of ignition. No smoking.

**7.2 Storage:** Store in well filled tight suitable containers; drums should only be considered as a means of transportation. Do not store with flammable or explosive materials and strong oxidizing agents. Keep drums tightly closed. Store dark, dry and under cold temperatures. Protect against warming / overheating. Recommended storage temperature: 8-12°C.

**7.3 Advice on general occupational hygiene:** Avoid excessive inhalation of concentrated vapours. Follow good manufacturing practices for housekeeping and personal hygiene. No eating, drinking and smoking during work. Avoid contact with the eyes and skin. Remove contaminated clothing. Wash hands thoroughly before breaks and at the end of the working day.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### 8.1.1 Ingredients with limit values that require monitoring at the workplace:

5989-27-5 (R)-p-mentha-1,8-diene

### 8.2 Exposure controls

#### 8.2.1 Personal protection equipment, general protective and hygienic measures

Use personal protective equipment. Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of the work. Avoid contact with the eyes and the skin.

**8.2.2.1 Eye/Face protection:** Use tightly sealed goggles.

**8.2.2.2 Skin protection:** Use protective gloves.

**Type of material of gloves:** The material of the gloves has to be impermeable and resistant to the product/the substance/the preparation/the chemical mixture.

However due to the missing information available because no tests have been conducted, the choice of the material of the gloves should take into account the penetration time, rates of diffusion and the degradation.

**Breakthroughtime of the glove material:** The penetration time of the glove material must be set by the manufacturer of the protective gloves according to the substance/the preparation/the chemical mixture.

**8.2.2.3 Respiratory protection:** Wear suitable respiratory equipment in case of insufficient ventilation. Suitable respiratory protection: filter class A2 (brown colour).

Use the rules for application of respiratory protection systems.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Important health, safety and environmental information

#### 9.1.1 Appearance

**Physical state:** Liquid    **Colour:** According to specifications    **Odour:** Characteristic

#### 9.2.2 Safety relevant basic data

Boiling point: Not determined

Flash point: 47°C

Explosive properties: Product is not explosive; however formation of explosive air/vapour mixtures are possible.

Solubilità/water solubilità: Not miscibile

**Self-igniting:** Product is not selfigniting, but in case of unpropitious storing conditions (air admission, heat accumulation) selfignition is possible for moistened solids (e.g. cloth, pulp, filter panels, binder).

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

## 10. STABILITY AND REACTIVITY

### Reactivity

#### Chemical Stability

**10.1 Thermal decomposition /Conditions to avoid:** Heating causes vaporisation and formation of ignitable atmosphere is possible. Direct source of heat.

**10.2 Incompatible materials:** Strong acids and oxidising agents

**10.3 Possibility of hazardous reactions:** Formation of explosive gas mixture with air possible.

In case of unpropitious storing conditions (air admission, heat accumulation) selfignition is possible for moistened solids (e.g. cloth, pulp, filter panels, binder)

**10.4 Hazardous decomposition products:** No dangerous decomposition known.

## 11. TOXICOLOGICAL INFORMATION

Acute toxicity:

LD/LC50 values relevant for classification:

Cas : 5989-27-5 (R) – p-mentha-1,8-diene

LD 50 oral (rat) 4400mg/Kg

Acute effects:

Primary irritant effect:

On the skin: Irritant to skin and to mucous membranes.

On the eyes: Irritating effect.

Additional toxicological information: The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparation as issued in the latest version.

Irritant.

Sensitisation: Sensitisation through skin contact.

## 12.ECOLOGICAL INFORMATION

General information:

Water hazard class 1 (German regulation) (VwVwS3824, Cas 84929-31-7)

Do not allow to enter canalisation / waterways / groundwater.

Biodegradation: no data available.

Ecotoxic effects: Very toxic to aquatic organism, may cause long term adverse effects in the aquatic environment.

**Warning – The safety of this product has not been determined**

**General notes:**

Also poisonous for fish and plankton in water bodies.

May cause long-term adverse effects in the aquatic environment.

Very toxic for aquatic organisms

Water hazard class 2 (German regulation) (VwVwS 3822; CAS 84929-38-4): hazardous for water

## 13.DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Recycling is preferred to disposal and burning.

If recycling is not possible, dispose in accordance with federal, state and local environmental regulations.

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

European Waste catalogue	
02 03 03	Wastes from solvent extraction

### 13.2 Uncleaned packaging:

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

Moistened solids (e.g. cloth, pulp, filter panels, binder) can be burnt after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

**14. TRANSPORT INFORMATION****14.1 Land transport (ADR/RID):****UN-No: 1169****Proper shipping name:** Extracts, Aromatic, Liquid**Class:** 3**Subsidiary Risk:** not applicable**Packing group:** III**Hazard Label:** 3**14.2 Sea transport (IMO):****UN-No: 1169****Proper shipping name:** Extracts, Aromatic, Liquid**Class:** 3**Packing group:** III**Marine pollutant:** Yes**EMS:** F-E, S-D**14.3 Air transport (ICAO/IATA):****UN-No: 1169****Proper shipping name:** Extracts, Aromatic, Liquid**Class:** 3**Subsidiary Risk:** not applicable**Packing group:** III**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****· National regulations:****· Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

**· Breakdown regulations:**

Critical quantity values according to the regulations on accidents should be adhered to.

**· Waterhazard class:**

Water hazard class 2 (German regulation) (VwVwS 3822; CAS 84929-38-4): hazardous for water

**· Other regulations, limitations and prohibitive regulations**

Comply with the rules and regulations of skin protection.

Comply with the rules and regulations of respiratory protection.

**16.OTHER INFORMATION**

The information provided in this safety data sheet is correct to the best of our knowledge, information and belief at the date of its application. This information is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal and should not to be considered as a warranty or quality specification.

**Reccomended restriction of use:** For industrial applications only.

**Classification according to regulation EC 1207/2008 (CLP)****Hazard statements:**

- H226: Flammable liquid and vapour
- H315: Causes skin irritation
- H317: May cause an allergic skin reaction
- H304: May be fatal if swallowed and enters airways
- H410: Very toxic to aquatic life with long lasting effects

**Precautionary Statements:**

- P210: Keep away from heat / sparks/ open flames/ hot surfaces/ no smoking
- P241: Use explosion-proof electrical/ventilating/lighting equipment
- P280: Wear Protective Gloves / protective clothing/ eye protection/ face protection
- P273: Avoid release to environment
- P301+P310: If swallowed: immediately call a poison center or doctor/physician
- P303+P361+P353: If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P331: Do not induce vomiting
- P405: Store locked up
- P501: Dispose of contents / container in accordance with local regulati

**Relevant R- and S- phrases:****Risk phrases**

- R 10: Flammable
- R 38: Irritating to skin
- R 43: May cause sensitisation by skin contact
- R 50/53: Very toxic to aquatic organism, may cause long term adverse effects in the aquatic environment.
- R 65: Harmful: may cause lung damage if swallowed.

**Safety phrases:**

- S 24: Avoid contact with the skin
- S 37: Wear suitable gloves
- S 61: Avoid release to the environment. Refer to special instructions/ material safety data sheets
- S62: If swallowed, do not induce vomiting : seek medical advise immediately and show this container or label.

## SPECIFICATION

**Product:** Orange Bitter

DATE 27/06/2016

<i>Colour</i>	: Yellow to orange/dark orange/green
<i>Odour</i>	: Characteristic
Specific Gravity 15°C	: 0,8460/0,8580
Refractive Index 20°C	: 1,4700/1,4780
Optical rotation 15°C	: 87/98.5
<i>Aldehydes calculated as Citral</i>	: Min. 1%



## **Vegetarian & Vegan Suitability Statement**

PRODUCT NAME: **Orange Bitter Essential Oil**

MADAR Corporation Limited can confirm that the above listed product has not been tested in animals and does not contain dairy or any other animal product, by product or derivative and is therefore suitable for vegetarian and vegan use.

28/01/19