



## BITTER ORANGE LEAF TUNISIA

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

|                         |                            |
|-------------------------|----------------------------|
| Commercial Product Name | BITTER ORANGE LEAF TUNISIA |
| Generic name            | –                          |
| Index-No annex VI       | –                          |
| CAS-No.                 | 8014-17-3                  |
| EC-No.                  | 946-433-7 (ex 277-143-2)   |
| EC CAS-No.              | _ (ex 72968-50-4)          |
| FEMA-No.                | 2855                       |
| FDA-No.                 | –                          |
| CoE-No.                 | 136                        |
| REACH registration No.  | 01-2120748358-44-0018      |

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Raw material for the industry.

#### 1.3. Details of the supplier of the safety data sheet

|   |  |
|---|--|
| Name and full details   | <b>ASTIER DEMAREST S.A.S</b><br>60, route de la Paoute<br>BP 51002 - Le Plan de Grasse<br>06131 GRASSE CEDEX<br>FRANCE<br>Tel / Ph +33.(0).4.93.40.56.56<br>contact@astierdemarest.com |
| E-mail adress of the person in charge of the writing of the material safety data sheets | reglementation@astierdemarest.com  |

#### 1.4. Emergency telephone number

UNITED KINGDOM

In England and Wales NHS 111 - dial 111

In Scotland NHS 24 - dial 111

IRELAND :

National Poisons Information Centre: 353 (1) 809 2166 (8.00 a.m.to 10.00 p.m. 7 days a week). Healthcare Professionals: +353 (1) 809 2566 (24 hour service)

### 2. Hazards identification

#### 2.1. Classification of the substance or mixture

|Asp. Tox. 1| : Aspiration hazard - Category 1  
 |Skin Irrit. 2| : Skin irritation - Category 2  
 |Eye Irrit. 2| : Irritating to eyes - Category 2  
 |Aquatic Chronic 2| : Chronic aquatic toxicity - Category 2

#### 2.2. Label elements

|                   |   |
|-------------------|---|
| Hazard pictograms |   |
| Signal word       | Danger  |
| Hazard statements | H304  : May be fatal if swallowed and enters airways.<br> H315  : Causes skin irritation.<br> H319  : Causes serious eye irritation.<br> H411  : Toxic to aquatic life with long lasting effects. |



## BITTER ORANGE LEAF TUNISIA

|                                 |  |
|---------------------------------|--|
| <b>Precautionary statements</b> | <p>[P280] : Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/... (See MSDS)</p> <p>[P301+P310] : IF SWALLOWED: Immediately call a POISON CENTER/doctor/...</p> <p>[P302+P352] : IF ON SKIN: Wash with plenty of water/...</p> <p>[P305+P351+P338] : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>[P405] : Store locked up.</p> <p>[P501] : Dispose of contents/container to gional/national/international regulation.</p> |
| <b>Additional Hazard class</b>  | -  |

### 2.3. Other hazards

|   |  |
|---|--|
| <b>Results of PBT and vPvB assessment</b> | Does not meet the criteria to be qualified as persistent, bioaccumulative and toxic, or very persistent and very bioaccumulative according to Annex XIII of Regulation (EU) 1907/2006.   |
| <b>Endocrine disrupting properties</b>    | Has not been listed pursuant to Article 59(1) of the REACH Regulation due to its endocrine disrupting properties, and is only known to have endocrine disrupting properties in accordance with the stated criteria in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. |
| <b>Other informations</b>                 | Not determined   |

## 3. Composition/information on ingredients

### 3.1. Substances

|  |   |
|--|---|
| <b>Main constituent</b>  | Essential oil of Petitgrain obtained from the leaves and twigs of Citrus aurantium (Rutaceae) by distillation |
| <b>Other constituents (additives, stabilising additive...)</b> | -   |

### 3.2. Mixtures / UVCB

#### - Hazardous components - Classification according to Regulation (EC) No 1272/2008

| Name               | EC No     | CAS No     | CLP - Categories   | CLP - Hazard Statement                               | Mini | Maxi  |
|--------------------|-----------|------------|--|--|------|-------|
| (E)-beta-Ocimene   | 223-241-5 | 3779-61-1  | Skin Irrit. 2<br>Aquatic Acute 1<br>Aquatic Chronic 2  | H315<br>H400<br>H411                                 | 1 %  | 4 %   |
| (E)-Nerolidol      | 255-053-4 | 40716-66-3 | Skin. Sens. 1B<br>Aquatic Acute 1<br>Aquatic Chronic 1   | H317<br>H400<br>H410                                 | 0 %  | 0.2 % |
| (Z)-beta-Ocimene   | 222-081-3 | 3338-55-4  | Flam. Liquid 3<br>Asp. Tox. 1<br>Skin Irrit. 2<br>Aquatic Acute 1<br>Aquatic Chronic 2                                     | H226<br>H304<br>H315<br>H400<br>H411                 | 0 %  | 1 %   |
| alpha-Pinene       | 201-291-9 | 80-56-8    | Flam. Liquid 3<br>Acute Tox. O 4<br>Skin Irrit. 2<br>Skin. Sens. 1B<br>Asp. Tox. 1<br>Aquatic Acute 1<br>Aquatic Chronic 1 | H226<br>H302<br>H315<br>H317<br>H304<br>H400<br>H410 | 0 %  | 0.4 % |
| alpha-Terpineol    | 202-680-6 | 98-55-5    | Skin Irrit. 2<br>Eye Irrit. 2  | H315<br>H319   | 1 %  | 4.5 % |
| alpha-Terpinolene  | 209-578-0 | 586-62-9   | Skin. Sens. 1B<br>Asp. Tox. 1<br>Aquatic Acute 1<br>Aquatic Chronic 1  | H317<br>H304<br>H400<br>H410                         | 0 %  | 0.5 % |
| beta-Caryophyllene | 201-746-1 | 87-44-5    | Skin. Sens. 1B<br>Asp. Tox. 1  | H317<br>H304   | 0 %  | 1.5 % |
| beta-Pinene        | 204-872-5 | 127-91-3   | Flam. Liquid 3<br>Skin Irrit. 2<br>Skin. Sens. 1B<br>Asp. Tox. 1<br>Aquatic Acute 1<br>Aquatic Chronic 1                   | H226<br>H315<br>H317<br>H304<br>H400<br>H410         | 0 %  | 3 %   |
| Delta-3-Carene     | 236-719-3 | 13466-78-9 | Skin Sens. 1<br>Skin Irrit. 2<br>Flam. Liq. 3<br>Asp. Tox. 1<br>Acute Tox. I 4<br>Aquatic Chronic 2                        | H317<br>H315<br>H226<br>H304<br>H332<br>H411         | 0 %  | 0.1 % |



## BITTER ORANGE LEAF TUNISIA

|                 |              |          |  |  |       |       |
|-----------------|--------------|----------|--|--|-------|-------|
| Dipentene       | 601-029-00-7 | 138-86-3 | Flam. Liq. 3<br>Skin Irrit. 2<br>Skin Sens. 1B<br>Aquatic Acute 1<br>Aquatic Chronic 1               | H226<br>H315<br>H317<br>H400<br>H410         | 1 %   | 6 %   |
| Geranial        | 205-476-5    | 141-27-5 | Skin Irrit. 2<br>Eye Irrit. 2<br>Skin Sens. 1B   | H315<br>H319<br>H317                         | 0 %   | 0.1 % |
| Geraniol        | 203-377-1    | 106-24-1 | Skin Irrit. 2<br>Eye Dam. 1<br>Skin Sens. 1  | H315<br>H318<br>H317                         | 1 %   | 4 %   |
| Geranyl acetate | 203-341-5    | 105-87-3 | Skin Irrit. 2<br>Skin. Sens. 1B<br>Aquatic Chronic 3   | H315<br>H317<br>H412                         | 1.5 % | 5.5 % |
| Linalool        | 603-235-00-2 | 78-70-6  | Skin. Sens. 1B   | H317   | 10 %  | 32 %  |
| Linalyl acetate | 204-116-4    | 115-95-7 | Skin Irrit. 2<br>Eye Irrit. 2<br>Skin. Sens. 1B  | H315<br>H319<br>H317                         | 40 %  | 72 %  |
| Myrcene         | 204-622-5    | 123-35-3 | Flam. Liq. 3<br>Skin Irrit. 2<br>Eye Irrit. 2<br>Asp. Tox. 1<br>Aquatic Acute 1<br>Aquatic Chronic 2 | H226<br>H315<br>H319<br>H304<br>H400<br>H411 | 0 %   | 3 %   |
| Neral           | 203-379-2    | 106-26-3 | Skin Irrit. 2<br>Eye Irrit. 2<br>Skin Sens. 1B   | H315<br>H319<br>H317                         | 0 %   | 0.1 % |
| Nerol           | 203-378-7    | 106-25-2 | Skin Irrit. 2<br>Skin Sens. 1B<br>Eye Irrit. 2   | H315<br>H319<br>H317                         | 0 %   | 1 %   |
| Neryl acetate   | 205-459-2    | 141-12-8 | Skin. Sens. 1B   | H317   | 0 %   | 2 %   |
| Terpinen-4-ol   | 209-235-5    | 562-74-3 | Acute Tox. I 4<br>Acute Tox. O 4<br>Skin Irrit. 2<br>Skin. Sens. 1<br>STOT Single Exp. 3             | H332<br>H302<br>H315<br>H317<br>H336         | 0 %   | 0.5 % |

### 4. First aid measures

#### 4.1. Description of first aid measures

|                     |  |
|---------------------|--|
| <b>Skin contact</b> | Remove contaminated clothing. Wash contaminated area with copious amounts of water and soap. Ask for medical advice if irritating.   |
| <b>Eye contact</b>  | Rinse immediately with plenty of water holding the eyelids apart. Consult a physician if irritation persists. For contact lens wearers: Rinse immediately with plenty of water. The lenses fall certainly during flushing. If this is not the case, remove if they can be easily removed. Do not give them and do not return the lens after the accident without the advice of your ophthalmologist. |
| <b>Ingestion</b>    | If the person is conscious, rinse mouth with water. DO NOT induce vomiting unless directed by medical personnel. Consult a doctor immediately. NEVER GIVE AN UNCONSCIOUS PATIENT WATER TO DRINK.   |
| <b>Inhalation</b>   | Place the patient to fresh air. If symptoms occur, consult a doctor. If unconscious, place in recovery position and get medical attention immediately.   |

#### 4.2. Most important symptoms and effects, both acute and delayed

For more details on the consequences in terms of health and symptoms, refer to Section 11.

#### 4.3. Indication of any immediate medical attention and special treatment needed

In case of doubt or if symptoms persist, consult a doctor. Never give anything by mouth to an unconscious person. It is recommended that those providing first aid have a personal protective equipment. No action shall be taken in the absence of proper training.

### 5. Firefighting measures

#### 5.1. Extinguishing media

|                                       |                                   |
|---------------------------------------|-----------------------------------|
| <b>Suitable extinguishing media</b>   | Carbon dioxide, dry chemical foam |
| <b>Unsuitable extinguishing media</b> | Direct stream of water.           |

#### 5.2. Special hazards arising from the substance or mixture

Possible production of toxic fumes in case of fire.



## BITTER ORANGE LEAF TUNISIA

### 5.3. Advice for firefighters

Avoid breathing vapors and smoke released. Use a mask if necessary. Do not attack the fire with water: water instead of stifling tends to fuel the fire some aromatic products such as essential oils have the ability to float on water. The fire spread so fast. Cool closed containers exposed to the heat of the fire by spraying water because the pressure can increase at high temperatures. To extinguish an incipient fire based essential oil, use a specific ABC powder fire extinguisher (or equivalent). If the fire is not important, it can be choked by covering with earth, sand or blanket.

### 6. Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- For non-rescuers:

Wear appropriate personal protective equipment to prevent inhalation and contact with skin, eyes and personal clothing. Refer to section 8. Ensure sufficient ventilation. Remove all sources of ignition. NO SMOKING. Keep unprotected people away.

- For rescuers:

Wear personal protective equipment adapted to the chemical risk. Ensure sufficient ventilation. Remove all sources of ignition. Keep unprotected people away.

#### 6.2. Environmental precautions

Avoid contamination of drains, surface water and groundwater. In case of environmental pollution (soil, drains, sewers, surface water or ground water), inform the competent authorities.

#### 6.3. Methods and material for containment and cleaning up

Large spillages should be contained with absorbent material, sand or inert powder, which will then be scanned and destroyed according to regulations as well as towels, sponges, etc.. used to absorb.

#### 6.4. Reference to other sections

For personal protection, see section 8.

For waste disposal, see section 13.

### 7. Handling and storage

#### 7.1. Precautions for safe handling

Avoid contact with the product. (See individual protection measures in section 8.) Do not ingest the product. Keep away from food or drink. Do not smoke near. Do not breathe vapors plenty hot. During the incorporation of the product, it must be kept at relatively low temperatures. If necessary temperature rise, it must be provided within short time. Do not heat open flame, fumes or expose to flame or other sources of ignition (eg electrical equipment). An adequate ventilation is desirable. Observe the precautions required by the current hygiene.

#### 7.2. Conditions for safe storage, including any incompatibilities

It is recommended to store in the original sealed packaging, away from heat and avoiding too large temperature differences. An adequate ventilation is desirable. Observe the precautions required by the current hygiene.

#### 7.3. Specific end use(s)

Comply with the regulations, no specific recommendation.

### 8. Exposure controls/personal protection

#### 8.1. Control parameters

Not determined, refer to the regulations (occupational exposure limit values, Derived No-Effect Level DNEL, Predicted No-Effect Concentration PNEC)

#### 8.2. Exposure controls

##### - Appropriate engineering controls

Maintain air concentrations below occupational exposure standards. Observe the normal safety precautions for the use of chemicals, ocular fountains and showers should be available nearby workstations.

##### - Individual protection measures, such as personal protective equipment

|                        |  |
|------------------------|--|
| Eye / face protection  | Safety glasses or goggles (EN 166)   |
| Skin protection        | Protective work clothing, gloves resistant to chemicals (EN 374-1) protection. They must be replaced regularly and the first signs of damage. Wash hands before breaks and immediately after handling the product. |
| Respiratory protection | In well-ventilated areas, respiratory protection is not normally required. If this is not the case, a mask may be required unless otherwise stated in section 2.   |
| Thermal hazards        | Always wear appropriate protective equipment and a self-contained breathing apparatus.   |



## BITTER ORANGE LEAF TUNISIA

### - Environmental exposure controls

Refer to regulations.

## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|  |  |
|--|--|
| Physical state                               | Liquid   |
| Colour                                       | Pale yellow to amber yellow, with a slight blue fluorescence.  |
| Odour  | Characteristic (orange like, bitter), ethereal and pleasant.   |
| pH   | Not determined   |
| Melting point/freezing point - °C            | <-80°C at 1013.25 hPa according to the test guidelines OECD 102, EU Method A.1 & OPPTS 830.7200  |
| Initial boiling point and boiling range - °C | The test item Petitgrain Oil - citrus aurantium has no boiling temperature, because the substance decomposes at temperatures >100°C according to the test guidelines OECD 103, EU Method A.2 & OPPTS 830.7220. |
| Flash point                                  | 75 °C 167 °F   |
| Evaporation rate                             | Not determined   |
| Flammability (solid, gas)                    | Not determined   |
| Upper/lower flammability or explosive limits | Not determined   |
| Vapour pressure                              | The initial vapour pressure of Petitgrain oil - citrus aurantium was found to be 37.50 Pa at 25°C (estimated by calculation) The vapour pressure of the constituents ranges from 2.12 to 981.0 Pa.             |
| Vapour density                               | Not determined   |
| Relative density                             | Min 0.885 Max 0.898  |
| Solubility(ies)                              | Ethanol 70° < 5 (V/V)  |
| Partition coefficient: n-octanol/water       | The log Kow range of the constituents of Petitgrain oil - citrus aurantium oil is 3.33-6.30.   |
| Auto-ignition temperature - °C               | The test item Petitgrain oil - citrus aurantium is 260°C at 997.5 -1003.0 hPa according to the test guidelines EU Method A.15 and DIN 51794.   |
| Decomposition temperature - °C               | Not determined   |
| Viscosity                                    | Not determined   |
| Explosive properties                         | The substance does not contain chemical groups with explosive properties.  |
| Oxidising properties                         | The substance does not contain chemical groups with oxidizing properties.  |
| Particle characteristics                     | Not applicable   |

### 9.2. Other information

The water solubility of Petitgrain oil - citrus aurantium was estimated by calculation. Water solubilities for the known constituents were estimated using the QSAR WATERNT v1.01 according to the fragment method.

The range of water solubilities for the known constituents of Petitgrain oil - citrus aurantium was found to be 0.54 - 1767.3 mg/L at 25°C. The main constituent, Linalyl acetate has a water solubility < 100 mg/L, 70.59% of the NCS has a water solubility < 100 mg/L.

## 10. Stability and reactivity

### 10.1. Reactivity

Does not present dangerous reactions under normal using conditions.

### 10.2. Chemical stability

Stable product in proper storage conditions.

### 10.3. Possibility of hazardous reactions

None according to our knowledge in the normal conditions of use.

### 10.4. Conditions to avoid

Prolonged or excessive heat and / or exposure to air can cause a non-hazardous decomposition and / or oxidation of the substance.

### 10.5. Incompatible materials

Avoid strong oxidants and acids.



## BITTER ORANGE LEAF TUNISIA

### 10.6. Hazardous decomposition products

No dangerous decomposition products known.

### 11. Toxicological informations

#### Information on hazard classes as defined in Regulation (EC) No 1272/2008

|                                   |   |
|-----------------------------------|---|
| Acute toxicity oral               | LD50 (rat) > 5 000 mg/kg bw                       |
| Acute toxicity dermal             | No known significant effects or critical hazards. |
| Skin corrosion/irritation         | Causes skin irritation.                           |
| Serious eye damage/irritation     | Causes serious eye irritation.                    |
| Respiratory or skin sensitisation | No known significant effects or critical hazards. |
| Germ cell mutagenicity            | No known significant effects or critical hazards. |
| Carcinogenicity                   | Not determined                                    |
| Reproductive toxicity             | Not determined                                    |
| STOT - single exposure            | Not determined                                    |
| STOT - repeated exposure          | Not determined                                    |
| Aspiration hazard                 | May be fatal if swallowed and enters airways.     |

#### 11.2. Information on other hazards

|                                 |                |
|---------------------------------|----------------|
| Endocrine disrupting properties | Not applicable |
| Other information               | Not determined |

### 12. Ecological informations

#### 12.1. Ecological information

No experimental short-term toxicity tests for algae and Daphnia are available for the substance. Kreatis QSAR worst case predictions resulted in an 48h EL50 value for Daphnia of 7.5 mg/l, whereas the 72h ErL50 for algae is 9.7 mg/L. Based on the lowest available acute data for Daphnia with an EL50 value of 7.5 mg/L the substance does not need to be classified for acute aquatic toxicity according to Table 4.1.0 (a) of CLP.

As no chronic value is available, the aquatic chronic classification needs to be derived on acute toxicity data. In view of the acute daphnid result of 7.5 mg/L, the substance being rapidly biodegradable but a majority of the composition showing log Kow >4, the substance needs to be classified for long term aquatic toxicity according to Figure 4.1.1 and Table 4.1.0, (b) iii of CLP, resulting in Aquatic Chronic Category 2 (H411) classification.

Overall, it can be concluded that Petitgrain oil - citrus aurantium needs to be classified as Aquatic Chronic 2 (H411) in accordance with the criteria outlined in Annex I of the CLP Regulation (1272/2008/EC).

#### 12.2. Persistence and degradability

Readily biodegradable

#### 12.3. Bioaccumulative potential

Not determined

#### 12.4. Mobility in soil

Not determined

#### 12.5. Results of PBT and vPvB assessment

Not applicable

#### 12.6. Endocrine disrupting properties

Not applicable

#### 12.7. Other adverse effects

Not determined

### 13. Disposal considerations

#### 13.1. Waste treatment methods

Prohibit the discharge into the natural environment (air, water, soil). Comply with applicable local regulations for disposal of waste and packaging. Use preferably a collector or an approved company. Keep (the) label (s) of contaminated packaging systematically. Empty packaging reuse



## BITTER ORANGE LEAF TUNISIA

### 14. Transport informations

#### 14.1. UN number

UN3082

#### 14.2.A. UN proper shipping name in French

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S. (extracts, liquid)

#### 14.2.B. UN proper shipping name in English

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S. (extracts, liquid)

#### 14.3. Class

9

#### 14.4. Packing group

III

#### 14.5. Environmental hazards

The brand "dangerous substance for the environment" should be marked.

#### 14.6. Special precautions for user

Road: refer ADR regulation, including the safety requirements of stakeholders (Section 1.4) and the provisions concerning loading, unloading and handling (Section 7.5).

Shipping: Please refer to the IMDG regulations.

Air transport refer to IATA regulations.

#### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable

#### 14.8. Other transport informations

|                            |                   |
|----------------------------|-------------------|
| Tunnel restriction No. ADR | (E)               |
| Packing instruction IATA   | 964               |
| EMS No.                    | F-A, S-F          |
| Labelling                  | 9 + poisson_arbre |



### 15. Regulatory informations

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

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#### 15.2. Chemical safety assessment

A chemical risk assessment is not required for this substance.

### 16. Other informations



## BITTER ORANGE LEAF TUNISIA

Sources : ECHA, NF ISO 8901 12/2004 oil of bitter petitgrain, cultivated

IFRA/IOFI Labeling Manual.

<https://chem.echa.europa.eu/>

This manual supplements the product data sheet but does not replace it. This information is correct to the best of our knowledge at the date indicated and are given in good faith. We shall not be held liable for use of the product for purposes other than those for which it is designed. This form does not exempt the user from knowing and applying all the regulations governing his activity. He will be the sole responsibility of the precautions related to his use of the product.

Full text of H-phrases mentioned in Section 3:

H226

Flammable liquid and vapour.

H302

Harmful if swallowed.

H317

May cause an allergic skin reaction.

H318

Causes serious eye damage.

H332

Harmful if inhaled.

H336

May cause drowsiness or dizziness.

H400

Very toxic to aquatic life.

H410

Very toxic to aquatic life with long lasting effects.

H412

Harmful to aquatic life with long lasting effects.

### - Indication of where changes have been made to the previous version

Completely revised version according to Regulation (EU) No 2020/878 of the Commission of 18 June 2020.