01. IDENTIFICATION OF THE SUBSTANCE/PREPARATION & THE COMPANY/UNDERTAKING

1.1 Product Identifier

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Mandarin Oil.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Definition</td>
<td>Citrus Nobilis Peel Oil Expressed is an essential oil expressed from the epicarps of the Mandarin, <em>Citrus nobilis, Rutaceae</em>.</td>
</tr>
<tr>
<td>INCI Name</td>
<td>Citrus Nobilis Peel Oil Expressed</td>
</tr>
<tr>
<td>Synonyms &amp; Trade Names</td>
<td>-</td>
</tr>
<tr>
<td>CAS-No</td>
<td>84929-38-4</td>
</tr>
<tr>
<td>EC No.</td>
<td>284-521-0</td>
</tr>
<tr>
<td>EINECS No.</td>
<td>284-521-0</td>
</tr>
</tbody>
</table>

1.2 Relative identified uses of the substance or mixture and uses advised against

No additional data available.

1.3 Details of the supplier of the safety data sheet

Essential Oils Direct Ltd 13 Parkside Industrial Estate, Royton, Oldham OL2 6DS - Reg No 04199912

1.4 Emergency Tel. No.

+ 44 (0) 161 633 3952

02. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

The Full Text for all Hazard Statements displayed in Section 16.

Classification (EC 1272/2008)

- Flam. Liq. 3 – H226
- Asp. Tox. 1 - H304
- Skin Irrit 2 – H315
- Skin Sens. 1 – H317
- Aquatic Chronic 1 - H410

2.2 Label Elements

Label in accordance with (EC) No 1272/2008

<table>
<thead>
<tr>
<th>GHS08</th>
<th>GHS07</th>
<th>GHS09</th>
<th>GHS02</th>
</tr>
</thead>
</table>

Signal Word

Danger.

Contains

-

Hazard Statements

- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- 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.
P262 Do not get in eyes, on skin or on clothing.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing and eye/face protection.
P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P331 Do NOT induce vomiting.
P405 Store locked up.
P501 Dispose of contents/container to ...

Supplementary Precautionary Statements
None.

2.3 Other Hazards

PBT or vPvB according to Annex XIII
No additional data available.
Adverse physio-chemical properties
No additional data available.
Adverse effects on human health
No additional data available.

03. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

~74.0% Limonene CAS-No.: 5989-27-5 EC No.: 227-813-5
Classification (EC 1272/2008) Flam. Liq. 3 – H226, Skin Irrit 2 – H315 Asp Tox. 1 – H304, Skin Sens. 1 – H317
Aquatic Acute 1 – H400, Aquatic Chronic 1 – H410

~18.0% Y-terpinene CAS-No 99-85-4, EC 202-794-6
Classification (EC 1272/2008); Flam. Liq. 3 – H226, Asp Tox. 1 –H304;

~2.0% Alpha-pinene CAS-No.: 80-56-8 EC No.: 201-291-9

~2.0% Myrcene (7-methyl-3-methyleneocta-1,6-diene) CAS-No.: 123-35-3 EC No.:204-622-5

04. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation Move to fresh air for at least 15 minutes, in case of complaints seek medical attention.
Ingestion Ask immediately medical assistance - mouth washing with water and do not provoke vomiting.
Skin Contact Remove contaminated clothing and wash with water and soap the contaminated part – make sure you have eliminated the contamination - in case of complaints seek medical attention.
Eye Contact abundant eye-wash for 15 minutes with pure water, make sure you have eliminated the contamination, in case of complaints seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: inhalation: can cause slight headache - contact: can cause bloodshot eyes - can cause slight skin
4.3 Indication of any immediate medical attention and special treatment needed

Immediate medical assistance: see point 4.1.
Immediate/special treatment: see point 4.1.
First aid specific means: eye wash fountain / safety shower should be available in the work area.

05. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Suitable extinguishing media: SMALL FIRE: use CO2, foam, dry powder - LARGE FIRE: use water spray or fog - cool containing vessels with water jet in order to prevent pressure build-up, auto-ignition or explosion.

Unsuitable extinguishing media: pressurized water jet.

5.2 Special hazards arising from the product

Vapours may form explosive mixture with air - in case of fire, the following can be released: carbon monoxide (CO), carbon dioxide (CO2), smoke, soot.

5.3 Advice for firefighters

Standard procedure for chemical fires - spray extinguishing media to base of flames - use adequate protections for respiratory apparatus, avoid vapour inhalation.

06. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non emergency personnel: in an emergency (i.e. unintentional important release of the product in enclosed space) respiratory protection (Gas filter A, Colour code brown: consider the maximum duration for wear) must be worn. Use insulating device for respiratory protection with an independent air supply in circumstances which are unclear - use adequate protections solvent resistant: security shoes, bodysuit, gloves and protective goggles (see point 8).

For emergency responders: as per non emergency personnel.

Emergency procedures: remove any ignition source and ensure adequate ventilation in working areas following accidental releases.

6.2 Environmental Precautions

Keep away from drains - keep away from surface and ground water.

6.3 Methods and material for containment and cleaning up.

Keep away from heat and use non-combustible absorbing sawdust (sand, specific binder). Refer to point 13 for the appropriate methods of waste treatment.

6.4 Reference to other sections

See point 4, 8 & 13.

07. HANDLING AND STORAGE

7.1 Precautions for safe handling

Safe handling: during handling keep original container closed - avoid contact with skin and eyes – wear adequate protective gloves and eye/face protection - avoid any sources of ignition – avoid exposing to high temperature during processing - maintain adequate local and general ventilation where product is handled.

Hygiene at work: do not ingest or apply to the skin as such - no smoking - remove contaminated clothing – good personal washing routines should be followed - if at risk of contamination, foods,
beverages and other articles of consumption must not be stored or consumed at the work areas.

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

Container: to be stored in stainless steel drums, preferably under inert atmosphere (nitrogen), protected from day-light. **Take note:** the container used during transportation must be considered only as a temporary container and it must not be considered in any case adequate for medium or long term warehousing.

Conditions: stored in a dry, aerated place, away from any heat source and ignition source.

Temperature: from 5°C and 20°C.

### 7.3 Specific end use(s)

Use as odour agent / flavouring agent - the information of this section are not related to the use of the product in combination with any other material or any other process altering its characteristics.

### 08. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters

No additional data available.

#### 8.2 Exposure controls

<table>
<thead>
<tr>
<th>Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process Conditions</strong></td>
</tr>
<tr>
<td><strong>Engineering Measures</strong></td>
</tr>
<tr>
<td><strong>Respiratory Equipment</strong></td>
</tr>
<tr>
<td><strong>Hand Protection</strong></td>
</tr>
<tr>
<td><strong>Eye Protection</strong></td>
</tr>
<tr>
<td><strong>Other Protection</strong></td>
</tr>
<tr>
<td><strong>Hygiene Measures</strong></td>
</tr>
<tr>
<td><strong>Personal Protection</strong></td>
</tr>
<tr>
<td><strong>Skin Protection</strong></td>
</tr>
<tr>
<td><strong>Environmental Exposure Controls</strong></td>
</tr>
</tbody>
</table>

### 09. PHYSICAL AND CHEMICAL PROPERTIES

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Mobile liquid.</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>Orange to dark yellow.</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Citrus – mandarin.</td>
</tr>
<tr>
<td><strong>Relative Density</strong></td>
<td>0.906 - 0.923 @ 20°C</td>
</tr>
<tr>
<td><strong>Flash Point (°C)</strong></td>
<td>48°C</td>
</tr>
<tr>
<td><strong>Refractive Index</strong></td>
<td>1.471 to 1.476 @ 20°C</td>
</tr>
<tr>
<td><strong>Melting Point (°C)</strong></td>
<td>No additional data available.</td>
</tr>
<tr>
<td><strong>Boiling Point (°C)</strong></td>
<td>170 +/- 10 @ 1026 hPa.</td>
</tr>
</tbody>
</table>
9.2 Other information

No additional data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

Substance not reactive with water - substance not reactive if used according to storage & handling conditions & identified uses (see subsection 1.2).

10.2 Chemical stability

Substance stable if used according to storage & handling conditions & identified uses (see subsection 1.2).

10.3 Possible hazardous reactions

None if used according to storage & handling conditions & identified uses (see subsection 1.2).

10.4 Conditions to Avoid

Avoid exposure to heat.

10.5 Incompatible materials

Highly oxidizing agents.

10.6 Hazardous Decomposition Products

No known hazardous decomposition products under recommended storage & handling conditions - in case of combustion: carbon monoxide (CO), carbon dioxide (CO2).

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity</td>
<td>LD50: 5 g/kg [source RIFM].</td>
</tr>
<tr>
<td>Skin corrosion / irritation</td>
<td>Hazard statement: H315 causes skin irritation.</td>
</tr>
<tr>
<td>Serious eye damage / irritation</td>
<td>Not classified as irritating to the eye [source RIFM].</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Hazard statement: H317 may cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>No additional data available.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>No additional data available.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No additional data available.</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>No additional data available.</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>No additional data available.</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Hazard statement: H304 may be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td>Photo-toxicity</td>
<td>No additional data available.</td>
</tr>
<tr>
<td>Other Information</td>
<td>No additional data available.</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic life: hazard statement: H410 very toxic to aquatic life with long lasting effects.
Algae/aquatic plants: EC50 65.9 mg/l (48h) calculated value [source RIFM].
Fish/aquatic invertebrates: No additional data.
PNECs: No additional data.

12.2 Persistence & degradability

This substance to be considered as a readily biodegradable substance; based on its ready biodegradability, oil
12.3 Bioaccumulation Potential

Hazard statement: H410 very toxic to aquatic life with long lasting effects.

12.4 Mobility in soil

This substance is considered as a readily biodegradable NCS. Based on the ready biodegradability of the NCS, simulation tests in surface water, sediment and soil are not required in accordance with column 2 of REACH Annex IX.

12.5 Results of PBT and vPvB Assessment

This substance is not classified as: PBT or vPvB / CMR.

12.6 Other adverse effects

No additional data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

The containers used for this product must completely empty before disposal. Dispose product and/or contaminated packaging in accordance with federal, state and local environmental control regulations - disposal through the waste water is illegal.

14. TRANSPORT INFORMATION

14.1 UN number

<table>
<thead>
<tr>
<th>UN No.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>1169</td>
</tr>
<tr>
<td>SEA</td>
<td>1169</td>
</tr>
<tr>
<td>AIR</td>
<td>1169</td>
</tr>
</tbody>
</table>

14.2 UN proper shipping name

Extracts, aromatic, liquid.

14.3 Transport hazard class(es)

- ADR/RID/ADN Class 3
- ADR/RID/ADN Class 3
- IMDG Class 3
- ICAO Class/Division 3

Transport Labels

14.4 Packing group

- ADR/RID/ADN Packing group III
- IMDG Packing group III
- ICAO Packing group III

14.5 Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant.
14.6 Special precautions for user

This product contains constituents flammables & dangerous for the environment - in case of pouring out, make sure to label new package accordingly, reproducing original label with relevant symbols.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Tariff Number 3301192000.

15. REGULATORY INFORMATION

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

Statutory Instruments

Guidance Notes
Workplace Exposure Limits EH40. CHIP for everyone HSG(108).

EU Legislation

15.2 Chemical safety assessment

No additional information available.

16. OTHER INFORMATION

Hazard and/or Precautionary Statements in Full

H226 flammable liquid and vapour.
H304 may be fatal if swallowed and enters airways.
H315 causes skin irritation.
H317 may cause an allergic skin reaction.
H410 very toxic to aquatic life with long lasting effects.

Other Information
None.

Revision Date
27/10/2015

Reason for revision
New format and updated SDS.

Rev No/Repl, SDS Generated
02

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