



Safety Data Sheet

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

1.1 Product Identifier

Product Name	Lemon Oil.				
Biological Definition	Citrus Limon Peel Oil is the volatile oil obtained by cold compression of the fresh peel of the Lemon, <i>Citrus limon (L.)</i> , Rutaceae.				
INCI Name	Citrus Limon Peel Oil.				
Synonyms & Trade Names	-				
CAS-No	8008-56-8 / 84929-31-7	EC No.	- / 284-515-8	EINECS No.	- / 284-515-8

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

Flavours, Fragrances: Use in accordance with good manufacturing and industrial hygiene practices. Not for personal use in this concentration.

1.3 Details of the supplier of the safety data sheet

Golden Bough Botanicals Inc 12-1585 Cliveden Ave Delta BC V3M 6M1

1.4 Emergency Tel. No.

604-540-8700 (Monday-Friday 8:30 am-4:30 pm)

02. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

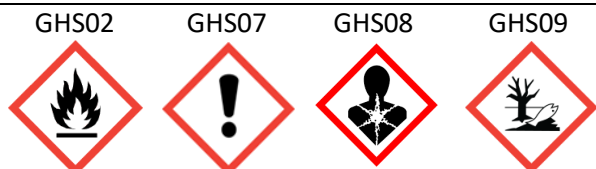
The full text for all hazard statements are displayed in Section 16.

Classification (EC 1272/2008)

Flammable Liquid, Hazard Category 3. H226
Skin Corrosion / Irritation Category 2. H315
Sensitization - Skin Category 1. H317
Aspiration Hazard Category 1. H304
Hazardous to the Aquatic Environment - Acute Hazard Category 1. H410

2.2 Label Elements

Label in accordance with (EC) No 1272/2008



Signal Word

Danger.

Contains

Limonene, pinenes, Citral, myrcene

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	
<p>P210, Keep away from heat, sparks, open flames and hot surfaces. - No smoking.</p> <p>P241, Use explosion-proof electrical, ventilating and lighting equipment.</p> <p>P262, Do not get in eyes, on skin or on clothing.</p> <p>P273, Avoid release to the environment.</p> <p>P280, Wear protective gloves/eye protection/face protection.</p> <p>P301/310, IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.</p> <p>P303/361/353, IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P331, Do not induce vomiting.</p>	
Supplementary Precautionary Statements	
<p>P405, Store locked up.</p> <p>P501, Dispose of contents/container to approved disposal site, in accordance with local regulations.</p>	
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	With the presence of furocoumarins, the product may have phototoxic effects (Skin).

03. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures	
~ 66.0% Limonene CAS-No: 5989-27-5; EC No.: 227-813-5	
Classification (EC 1272/2008) Flam. Liq. 3 - H226, Skin Irrit. 2 - H315, Skin Sens. 1 - H317, Asp. Tox. 1 - H304, Aquatic Acute 1 - H400, Aquatic Chronic 1 - H410	
~ 13.0% β-Pinene CAS No: 127-91-3 ; EC No: 20-872-5	
Classification (EC 1272/2008) Flam. Liq. 3 - H226, Asp. Tox. 1 - H304, Skin Irrit. 2 - H315, Skin Sens. 1 - H317	
~ 9.0% γ-Terpinene (p-mentha-1,4-diene) CAS No99-85-4 ; EC No: 202-794-6	
Classification (EC 1272/2008) Flam. Liq. 3 – H226, Asp Tox. 1 –H304;	
~ 3.0% Citral CAS No: 5392-40-5 ; EC No: 226-394-6	
Classification (EC 1272/2008) Skin Irrit. 2 - H315, Eye Irrit. 2 - H319, Skin Sens. 1 - H317	
~ 2.5% α-Pinene CAS No: 80-56-8 ; EC No: 201-291-9	
Classification (EC 1272/2008) Flam. Liq. 3, H226; Asp. Tox. 1, H304; Skin Sens.1, H317; Aquatic Acute 1, Aquatic Chronic 1, H410	
~ 1.5% Sabinene CAS No: 3387-41-5 ; EC No: 222-212-4	
Classification (EC 1272/2008) Flammable Liq. Cat 3, H226	
~ 1.5% Myrcene CAS No: 123-35-3 ; EC No: 204-622-5	

Classification (EC 1272/2008) Flam. Liq. 3 - H226, Asp. Tox. 1 - H304, Aquatic Chronic 3 - H412

04. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Remove from exposure area to fresh air. Obtain medical advice immediately.
Ingestion	Wash mouth out with water and obtain medical advice immediately. DO NOT INDUCE VOMITING!
Skin Contact	Remove contaminated clothing. Wash thoroughly with soap and water. Seek medical advice if irritation persists or there is any sign of tissue damage.
Eye Contact	Flush with plenty of water for at least 15 minutes. Remove contact lenses. Seek medical advice.

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 rash.

4.3 Indication of any immediate medical attention and special treatment needed

Immediate medical assistance: see Section 4.1 for further information.

Immediate special treatment: see Section 4.1 for further information.

First aid specific means: eye wash fountains / safety shower should be available in the work area.

05. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Suitable extinguishing media:

Small fire: CO₂, Dry powder, Foam. Spray to base of flames.

Large Fire: use water spray or fog. Cool containers with a water jet to prevent pressure build up, auto-ignition or explosion.

Unsuitable extinguishing media: pressurised water jet.

5.2 Special hazards arising from the product

Vapours may form an explosive mixture with air. In case of fire, Carbon monoxide, carbon dioxide, smoke and soot may be liberated.

5.3 Advice for firefighters

Standard procedure for chemical fires. Spray extinguishing media to base of flames. Wear protective clothing. Avoid inhalation of vapours. Wear suitable respiratory equipment, if insufficient ventilation. Closed containers may build up pressure when exposed to heat and should be cooled with water spray.

06. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

In an emergency (i.e. un-intentional release of the substance exceeding the DNEL) respiratory protection (gas filter A colour code brown) must be worn. Consider the maximum duration for wear. Use insulating device for respiratory protection with an independent air supply if:-

- a) the concentration is above the usage for filter devices,
- b) for oxygen concentrations below 17% volume,
- c) in circumstances unclear.

Use adequate protection. E.g. solvent resistant security shoes, body suit, gloves and protective goggles. (see point 8).

Remove any ignition source and ensure adequate ventilation in working areas following accidental release.

6.2 Environmental Precautions

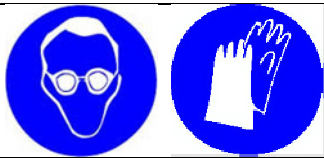
Do not discharge into drains, water courses or onto the ground. Keep away from surface and ground water.

6.3 Methods and material for containment and cleaning up.
Remove ignition sources. Ensure adequate ventilation. Absorb with inert, non-combustible, inorganic absorbent material, sweep up and remove to an approved disposal container. Dispose of according to current local authority guidelines.
6.4 Reference to other sections
See sections 4, 8 and 13.

07. HANDLING AND STORAGE

7.1 Precautions for safe handling
Apply good manufacturing practice & industrial hygiene practices, ensuring proper workplace ventilation. Keep original container closed. Avoid contact with skin and eyes. Observe good personal hygiene, and do not eat, drink or smoke whilst handling. Keep away from heat, sparks and open flame. Avoid exposing to high temperatures during processing.
7.2 Conditions for safe storage, including any incompatibilities
To be stored in stainless steel drums, preferably under an inert atmosphere (e.g. nitrogen) with minimum head space protected from daylight. *NB* the container used during transportation must be considered as only a temporary container and it must not be considered in any case adequate for medium or long term warehousing. Store in a dry, aerated place (between 5 – 20°C) away from heat and ignition sources.
7.3 Specific end use(s)
Flavours, Fragrances: Use in accordance with good manufacturing and industrial hygiene practices.

08. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters	
No additional data available.	
8.2 Exposure controls	
Protective Equipment	
	
Process Conditions	Provide eyewash station.
Engineering Measures	Provide adequate ventilation Avoid static discharges in working area.
Respiratory Equipment	Avoid breathing vapours. Respiratory equipment should not be necessary with adequate ventilation.
Hand Protection	Avoid all skin contact. Wear chemical resistant gloves (PVC) tested to EN374.
Eye Protection	Avoid contact with eyes. Wear approved safety goggles with built in frame tested to EN166.
Other Protection	No additional data available.
Hygiene Measures	Good personal hygiene practices are always advisable, especially when working with chemicals / oils. Keep away from foodstuffs, beverages and feed.
Personal Protection	Avoid inhalation and contact with skin and eyes.
Skin Protection	Wear apron or protective clothing in case of splashes.
Environmental Exposure Controls	Avoid discharging into drainage water. Only eliminate by authorised companies.

09. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
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Appearance	Liquid, yellow to light greenish.
Colour	Yellow to light greenish.
Odour	Characteristic – citrus, lemon.
Relative Density	0.846 – 0.856 @ 20°C
Flash Point (°C)	~ 49.0
Refractive Index	1.472 to 1.478 @ 20°C
Melting Point (°C)	No additional data available.
Boiling Point (°C)	~ 170°C ± 10°C @ 1026hPa
Vapour Pressure	186.4 Pa @25°C
Solubility in Water @20°C	Insoluble in water. Soluble in alcohol and other oils.
Auto-ignition temperature (°C)	~ 235.0

9.2 Other information

No additional data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

Presents no significant reactivity hazards, by itself or in contact with water. Stable under normal temperature and storage conditions and recommended use.

10.2 Chemical stability

Stable under normal temperature and storage conditions and recommended use.

10.3 Possible hazardous reactions

Not expected under normal temperature conditions and recommended use.

10.4 Conditions to Avoid

Avoid heat, sparks and open flames.

10.5 Incompatible materials

Avoid contact with strong acids, alkalis and oxidising agents.

10.6 Hazardous Decomposition Products

Not expected under normal temperature conditions and recommended use. In case of combustion; CO₂ and CO may be released.

11. TOXOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity	LD50: 5000mg/kg bw (oral: rat) LD50: 10000 mg/kg bw (Dermal: rabbit) (source CSR)
Skin corrosion / irritation	Causes skin irritation (H315).
Serious eye damage / irritation	Not classified as irritating to the eye (source CSR)
Respiratory or skin sensitisation	May cause an allergic skin reaction (H317).
Germ Cell Mutagenicity	Negative. (Source CSR).
Carcinogenicity	Not tested (source CSR).
Reproductive toxicity	No additional data available.
STOT-single exposure	No additional data available.
STOT-repeated exposure	No additional data available.
Aspiration hazard	May be fatal if swallowed and enters airways (H304).
Photo-toxicity	No additional data available.
Other Information	No additional data available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Marine pollutant.

Aquatic life: H410; Very toxic to aquatic life with long lasting effects.

Algae/aquatic plants: EC50/LC50 for freshwater algae: 0.523 mg/l (source CSR).

Fish: LC50 for freshwater fish: 0.341 mg/l (Source CSR).

Aquatic invertebrates: EC50/LC50 for fresh water invertebrates; 0.313 mg/l (source CSR).

PNECs:

water:	Aqua (freshwater):	5.4 µg/l
	Aqua (marine water):	0.54 µg/l
	Aqua (intermittent release):	577 µg/l
	Sediment (freshwater):	1.3 mg/kg sediment dw
	Sediment (marine water):	0.13 mg/kg sediment dw
	Sewage treatment plant:	2.1 mg/l
Soil:		0.261 mg/kg soil dw
Oral:		13.3 mg/kg

(Source CSR).

12.2 Persistence & degradability

To be considered as readily biodegradable based on its ready biodegradability. Oil does not fulfil the criteria for persistence.

12.3 Bioaccumulation Potential

H410 very toxic to aquatic life with long lasting effects.

12.4 Mobility in soil

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 does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6 Other adverse effects

Do not discharge into the environment especially not into waterways, sewers and the sea.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Do not release into the environment. Collect waste into suitable containers and contact hazardous chemical disposal company. Containers must be completely empty before disposal.

14. TRANSPORT INFORMATION

14.1 UN number

UN No. Road	UN 1169
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UN No. SEA	UN 1169
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UN No. AIR	UN 1169
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14.2 UN proper shipping name

Extracts, Aromatic, Liquid.

14.3 Transport hazard class(es)

ADR/RID/ADN Class: 3 Flammable Liquid.

IMDG Class: 3 Flammable Liquid.

ICAO Class/Division: 3 Flammable Liquid.

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

Tariff code: 3301131000. This product contains flammables and dangerous for the environment. In case on pouring out, make sure label new packaging accordingly. Reproducing original label with relevant symbols.

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

No additional data available.

15. REGULATORY INFORMATION

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

Statutory Instruments

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).

Guidance Notes

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

EU Legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

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	Complies with REACH guidance for SDS as circulated by ECHA 2011.
Revision Date	June 14, 2016
Reason for revision	Updated to new SDS format

Rev No/Repl, SDS Generated	02 replaces version 01
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