

SAFETY DATA SHEET

Lemon Essential Oil

Section 1 – Product and Company Information

1.1. Product identifier

Product name:	Lemon Essential Oil
INCI:	<i>Citrus limonum</i>
CAS number:	5989-27-5

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

Relevant uses: For Food (flavourant) and industrial uses.

Restrictions: Not intended to be consumed as is.

Uses advised against: All uses not specified in this section or in section 7.3

Section 2 – Hazards Identification

Classification of the substance or mixture

GHS:

Flammable liquid	Category 3
Skin irritant	Category 2
Eye irritant	Category 2B
Respiratory sensitization	Sub-category 1B
Classification 67/548/EEC:	Flammable

GHS Label elements including precautionary statements

**Flammable liquids:**

Hazard pictogram Flame
Signal word Warning



Hazard statement H226: Flammable liquid and vapour

Skin irritation:

Hazard pictogram Exclamation Mark
Signal word Warning
Hazard statement H315: Causes skin irritation

Eye irritation

Hazard pictogram No pictogram
Signal word Warning
Hazard statement H320: Causes eye irritation

Respiratory sensitizer

Hazard pictogram Danger
Signal word H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
Hazard statement

Precautionary statements

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261 Avoid breathing vapours/spray.

P264 Wash hands thoroughly after handling

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection

P284 In case of inadequate ventilation wear respiratory protection.

Response

P391 Collect spillage

P302 + P352 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Health hazard

P501

P332 + P313 + P337 If skin irritation occurs or eye irritation persists: Get medical advice/attention

P342 + P311 If experiencing respiratory symptoms: Call a doctor

P361 + P364 + P362 Take off contaminated clothing and wash it before reuse.

P370 + P378 In case of fire: Use foam/sand/CO2/powder to extinguish

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Storage: Store locked up. Store in a well-ventilated place. Keep cool

Disposal: Dispose of contents in accordance with local/regional/national /international regulation

Other hazards

Not known

Section 3 – Composition/information on ingredients

Substances

Terpene hydrocarbons (natural Lemon oil) n.o.s obtained from cold pressing Lemon (*Citrus Limon*) peel. The hydrocarbons compose the majority of the oil primarily as *d*-limonene.

Common name Lemon oil

CAS No. 5989-27-5

Mixtures

Not applicable

Section 4 – First aid measures

General advice:

Skin contact	Remove contaminated clothing. Wash affected areas with soap and lukewarm water. If any irritation, consult a physician.
Eye contact	Rinse eyes with large volumes of lukewarm water. Consult a physician if symptoms occur/persist after washing.
Ingestion	Do not induce vomiting. First aid not usually required (product safe for human consumption). In case of overdose drink large volumes of water/milk. Consult a physician, especially in case of large doses of ingestion.
Inhalation	If symptoms occur move individual away from exposure and into fresh air. If symptoms persist, seek medical assistance. If breathing is difficult, administer oxygen (O ₂).

Most important symptoms and effects, both acute and delayed

Hives

Indication of any immediate medical attention and special treatment needed

Treat symptomatically. May cause sensitization in susceptible persons

Section 5 – Firefighting measures

Extinguishing media

Suitable extinguishing media Dry chemical, foam, extinguishing powder, carbon dioxide, sand

Unsuitable extinguishing media Decomposition by contact with water may generate vapours which can be ignited by heat or open flame

Special hazards arising from the substance or mixture

Not combustible

May liberate hazardous vapours

Advice for firefighters

Inhalation Stay in danger area only with self-contained breathing apparatus. Avoid breathing fire vapours.

Skin contact Avoid skin contact by keeping a safe distance

Section 6 – Accidental release measures

Personal precautions, protective equipment, and emergency procedures

Keep spill away from ignition sources. Avoid substance contact. Ensure adequate ventilation.

Environmental precautions

Do not empty into drains.

Methods and material for containment and cleaning up

Extinguish all possible ignition sources. Ventilate. Use non-flammable absorbent to absorb spillage and place in containers for proper disposal. Rinse affected area with lukewarm water and detergent.

Reference to other sections

Waste treatment: section 13

Section 7 – Handling and storage

Precautions for safe handling

Keep product away from ignition sources to prevent fire.
Keep product in closed packaging (drum) to prevent spills.
Do not smoke in work areas.
Wash hands after work.

Conditions for safe storage, including any incompatibilities

Keep out of direct sunlight.
Do not store at elevated temperatures (<40°C), but in cool areas away from heat sources, sparks and open flames.

Specific end use(s)

None other than mentioned in section 1.2

Section 8 – Exposure Controls / Personal Protection

Control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Exposure controls

Appropriate engineering controls
Individual protection measures
Eye/face protection
Skin protection
Respiratory protection

Refer to section 7.1

When using, do not eat, drink or smoke.
Splash proof safety goggles
Not required under normal working conditions
Not required when in adequate ventilated area

Section 9 – Physical/Chemical Properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Odour	Characteristic of the outer part of fresh Lemon peel
Colour	Yellow
Odour threshold	Not available
pH	Not available
Melting point/freezing point	-74.3 °C
Initial boiling point and boiling range	> 35 °C
Flash point	46 °C
Evaporation rate	Not available
Flammability (solid/gas)	Not applicable
Upper/lower flammability or explosive limits	Not available
Vapour pressure	<300 kPa @ 50°C
Vapour density	Not available
Specific gravity @ 20°C	0.8500 – 0.8580
Refractive index @ 20°C	1.4730 – 1.4760
Solubility(ies)	Very low solubility in water (<0.1%), soluble in all polar organic solvents, hexane and petroleum ether.
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	255 °C
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not classified as explosive
Oxidising properties	Not available

Other information

None

Section 10 – Stability and Reactivity

Reactivity

Stable under normal storage conditions, refer section 7.2

Chemical stability

Stable under normal storage conditions, refer section 7.2

Possibility of hazardous reactions

Not known under normal storage conditions, refer section 7.2

Conditions to avoid

Heat, flames and sparks

Incompatible materials

No incompatible materials known to produce a hazardous situation.

Hazardous decomposition products

In the event of fire – refer to section 5.

Section 11 – Toxicological information

Information on toxicological effects

Product does not present an acute toxicity hazard based on known information.

Section 12 – Ecological Information

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Results of PBT and vPvB assessment

No information available.

Other adverse effects

Not considered a marine pollutant according to IMDG Code.

Section 13 – Disposal Considerations

Waste treatment methods

Dispose of in accordance to Federal, State and Local environmental regulations. In most cases land fill or incineration would apply. Contact the authorities in charge of approved waste companies to advise on how to dispose of special waste (chemical residue). Do not allow to enter drinking water supply, waste water or soil.

Section 14 – Transport Information

LAND TRANSPORT (ADR/RID)

14.1 UN number	UN2319
14.2 UN proper shipping name	Terpene hydrocarbons n.o.s
14.3 Transport hazard class	3
14.4 Packing group	III
14.5 Environmental hazards	--
14.6 Special precautions for user	--

SEA TRANSPORT (IMDG)

14.1 UN number	UN2319
14.2 UN proper shipping name	Terpene hydrocarbons n.o.s
14.3 Transport hazard class	3
14.4 Packing group	III
14.5 Environmental hazards	--
14.6 Special precautions for user	--

AIR TRANSPORT (IATA)

14.1 UN number	UN2319
14.2 UN proper shipping name	Terpene hydrocarbons n.o.s
14.3 Transport hazard class	3
14.4 Packing group	III
14.5 Environmental hazards	--
14.6 Special precautions for user	--

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Section 15 – Regulatory Information

Safety, health and environmental regulations/legislation specific for the product

FDA Grass status: 182.20 Essential oils, oleoresins (solvent-free), and natural extractives (including distillates).

Chemical safety assessment

A chemical safety assessment was not carried out for this substance by the manufacturer.

Section 16 – Other information

Training: Provide adequate information, instruction and training to handlers

Sources used to compile data:

Globally Harmonized System of Classification and Labelling of Chemicals (GHS), ST/SG/AC.10/30/Rev.5 United Nations New York and Geneva, 2013

International Maritime Dangerous Goods (IMDG) Code, 2012 edition vol. I and II incorporating amendment 3612

European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), 2012 edition (ECE/TRANS/225, vol. I and II), and corrigendum1, applicable as from 1 January 2013.

Disclaimer: As the users' condition of work is not known, the information contained in this Material Safety Data Sheet is accurate to the best of our knowledge and is based on the national community regulations. The product must not be employed for uses other than those specified without having previously obtained written handling instructions. Users are responsible for taking all necessary to comply with the requirements of the law and local regulations. The information contained in this sheet should be regarded as the description of the safety requirements relating to our products and not as a guarantee of its properties.