

**Conforms to GHS according to Regulation (EU) No. 1907/2006
and OSHA (US) 29 CFR 1910.1200 and 49 CFR**

PRODUCT: LEMONGRASS OIL

Version: 2 Revision date: April 30, 2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name : LEMONGRASS OIL
EC No : 289-752-0
CAS No : 8007-02-1

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

1.2.1. Relevant identified uses

Main use category : Industrial use
Industrial/Professional use spec : Industrial. For professional use only
Use of the substance/mixture : Industrial uses: Uses of substances as such or in preparations at industrial sites

1.2.2. Uses advised against

External use only. Do not ingest as such.

1.3. Details of the supplier of the safety datasheet

Charkit Chemical Company, LLC.
32 Haviland Street, Unit 1
Norwalk, CT 06854
Telephone: +1 203-299-3220

1.4. Emergency telephone number

Emergency number: (CHEMTREC) 1 (800) 424-9300 or 1 (703) 527-3887.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 2 H319
Sensitization — Skin, Category 1 H317
Hazardous to the aquatic environment — Chronic Hazard, Category 3 H412

Full text of hazard classes and H-statements: see section 16

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Hazardous ingredients :

Geraniol 60, Nerol, Geranyl acetate, d-Limonene

Hazard statements (CLP) :

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (CLP) :

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash hands thoroughly after handling
P272 - Contaminated work clothing should not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection
P302+P352 - IF ON SKIN: Wash with plenty of soap and water

LEMONGRASS OIL

Safety Data Sheet

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Geranyl acetate	(CAS No) 105-87-3 (EC No) 203-341-5	1 - 5	Not classified	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Geraniol 60	(CAS No) 106-24-1 (EC No) 203-377-1	2.4 - 2.6	Not classified	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317
d-Limonene	(CAS No) 5989-27-5 (EC No) 227-813-5 (EC Index No) 601-029-00-7	1 - 5	Not classified	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Nerol	(CAS No) 106-25-2 (EC No) 203-378-7	1.32 - 1.6	Not classified	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
CARYOPHYLLENE	(CAS No) 87-44-5 (EC No) 201-746-1	1 - 5	Not classified	Asp. Tox. 1, H304
Linalool	(CAS No) 78-70-6 (EC No) 201-134-4	1 - 5	Not classified	Skin Irrit. 2, H315 Eye Irrit. 2, H319

Full text of R- and H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Assure fresh air breathing. Allow the victim to rest.
First-aid measures after skin contact	: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label). If skin irritation or rash occurs:
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Immediately call a POISON CENTER or doctor/physician. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries after inhalation	: May cause an allergic skin reaction.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye damage. Causes serious eye irritation.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: dry chemical powder. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Combustible liquid.
Explosion hazard	: May form flammable/explosive vapor-air mixture.

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
---------------------------	---

LEMONGRASS OIL

Safety Data Sheet

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleanup

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. Avoid breathing dust/fume/gas/mist/vapors/spray.

Hygiene measures : Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from: Keep container closed when not in use. Keep in fireproof place.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

d-Limonene (5989-27-5)

Belgium	Limit value (ppm)	20 ppm
---------	-------------------	--------

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear protective gloves/protective clothing/eye protection protective gloves

Eye protection : Chemical goggles or safety glasses

Skin and body protection : Wear suitable protective clothing

Respiratory protection : Wear appropriate mask

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : Colorless.

Odor : characteristic.

Odor threshold : No data available

LEMONGRASS OIL

Safety Data Sheet

pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 160 °F
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Combustible liquid
Vapor pressure	: 0.05 mm Hg ₂₀ °C
Relative vapor density at 20 °C	: No data available
Relative density	: 0.8915
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Combustible liquid. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Extremely high or low temperatures. Open flame. Overheating. Direct sunlight. Heat. Sparks.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

LEMONGRASS OIL (8007-02-1)	
LD50 dermal	2800 mg/kg bodyweight
Geraniol 60 (106-24-1)	
LD50 oral rat	3600 mg/kg (Rat)
LD50 oral	3600 mg/kg bodyweight
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)
d-Limonene (5989-27-5)	
LD50 oral rat	4400 mg/kg bodyweight
LD50 dermal rabbit	> 5000 mg/kg bodyweight
Linalool (78-70-6)	
LD50 oral	2780 mg/kg bodyweight
Nerol (106-25-2)	
LD50 oral	4500 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

LEMONGRASS OIL

Safety Data Sheet

Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	: Not classified Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met

LEMONGRASS OIL (8007-02-1)

Viscosity, kinematic	< 20.5 mm ² /s
----------------------	---------------------------

Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
---	---

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water	: Toxic to aquatic life. Harmful to aquatic life with long lasting effects.
-----------------	---

Geraniol 60 (106-24-1)

LC50 fish 1	> 9.8 mg/l (96 h; Brachydanio rerio)
-------------	--------------------------------------

LC50 fish 2	< 18.9 mg/l
-------------	-------------

EC50 other aquatic organisms 1	144 mg/l (Activated sludge)
--------------------------------	-----------------------------

d-Limonene (5989-27-5)

LC50 fish 1	720 µg/l (96 h; Pimephales promelas; Lethal)
-------------	--

LC50 fish 2	702 µg/l (96 h; Pimephales promelas)
-------------	--------------------------------------

EC50 Daphnia 1	0.36 mg/l (48 h; Daphnia magna; GLP)
----------------	--------------------------------------

Threshold limit algae 1	150 mg/l (72 h; Desmodesmus subspicatus; GLP)
-------------------------	---

Threshold limit algae 2	2.62 mg/l (72 h; Desmodesmus subspicatus)
-------------------------	---

12.2. Persistence and degradability

LEMONGRASS OIL (8007-02-1)

Persistence and degradability	May cause long-term adverse effects in the environment.
-------------------------------	---

Geraniol 60 (106-24-1)

Persistence and degradability	Readily biodegradable in water.
-------------------------------	---------------------------------

ThOD	2.9 g O ₂ /g substance
------	-----------------------------------

Geranyl acetate (105-87-3)

Persistence and degradability	May cause long-term adverse effects in the environment.
-------------------------------	---

d-Limonene (5989-27-5)

Persistence and degradability	May cause long-term adverse effects in the environment. Readily biodegradable in water. Adsorbs into the soil.
-------------------------------	--

ThOD	3.29 g O ₂ /g substance
------	------------------------------------

CARYOPHYLLENE (87-44-5)

Persistence and degradability	Not established.
-------------------------------	------------------

Linalool (78-70-6)

Persistence and degradability	Not established.
-------------------------------	------------------

Nerol (106-25-2)

Persistence and degradability	Not established.
-------------------------------	------------------

12.3. Bioaccumulative potential

LEMONGRASS OIL (8007-02-1)

Bioaccumulative potential	Not established.
---------------------------	------------------

Geraniol 60 (106-24-1)

Bioaccumulative potential	Not established.
---------------------------	------------------

LEMONGRASS OIL

Safety Data Sheet

Geranyl acetate (105-87-3)	
Bioaccumulative potential	Not established.
d-Limonene (5989-27-5)	
BCF fish 1	864.8 - 1022 (Pisces; Fresh weight)
Log Pow	4.38 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method; 37 °C)
Bioaccumulative potential	Not established. Bioaccumulative potential.
CARYOPHYLLENE (87-44-5)	
Bioaccumulative potential	Not established.
Linalool (78-70-6)	
Bioaccumulative potential	Not established.
Nerol (106-25-2)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose in a safe manner in accordance with local/national regulations.

Additional information : Handle empty containers with care because residual vapors are flammable.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable

Proper Shipping Name (IMDG) : Not applicable

Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

LEMONGRASS OIL

Safety Data Sheet

14.6. Special precautions for user

- Overland transport

No data available

- Transport by sea

MFAG-No : 171

- Air transport

No data available

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Germany

VwVwS Annex reference : Water hazard class (WGK) 2, hazard to waters (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Emission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of R-, H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitization — Skin, Category 1
Skin Sens. 1B	Sensitization — Skin, category 1B

LEMONGRASS OIL

Safety Data Sheet

H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
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

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and our company assumes no liability resulting from the use of this SDS. This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment and must determine suitability of this information for his application.

This information is believed to be accurate and is intended for general guidance. It should not be construed as a guarantee of its suitability for a particular application. Charkit Chemical Company, LLC. offers no warranties either expressed or implied, nor is freedom from any patent owned by Charkit Chemical Company, LLC. or others implied; neither is liability accepted for errors or omissions in the information. Typical properties of products are given for guidance only and do not necessarily represent manufacturing specifications.