

## LEMON OIL

Version 3RME07 – Revision Date: October 26, 2023

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### 1. SUBSTANCE

#### 1.1 Product identifier

product trade name	Lemon Essential Oil
relevant identified uses	odour agent / flavouring agent
botanical origin	<i>Citrus limon</i> , (L) BURM. f.
production process	obtained by cold pressing from the outer part of fresh lemon fruits peel
status	100% Natural Complex Substance
EC name	Lemon, ext.
EC number	284-515-8
CAS number (EC inventory)	84929-31-7
other CAS number	8008-56-8
FDA number	21CFR182.20
CE number	139
FEMA number	2625
RIFM number	136-G2.5
INCI name	citrus limon peel oil

### 2. PHYSICAL AND CHEMICAL PROPERTIES

#### 2.1 Organoleptics characteristics

appearance & color	liquid - yellow to yellow-greenish
odor	typical of lemon oil - green note

#### 2.2 Physical & chemical data

analysis	ranges	instruments
relative density $d_4^{20}$	0.8450 ÷ 0.8550	ANTON PAAR - DMA 4500
optical rotation $\alpha_D^{20}$	+57.00° ÷ +72.00°	Optical Activity - POLAAR 20
refractive index $n_D^{20}$	1.4700 ÷ 1.4800	ANTON PAAR - RXA 170
peroxides	≤20 mmol/l	CDR - FoodLab
flash point	53.5 °C (128.3 °F)	GRABNER - Miniflash FLP
solubility	alcohol - other oils	-

#### 2.3 Key peaks

common name	ranges	instrument
α-pinene	1.00% ÷ 4.00%	GC - internal method
β-pinene	8.00% ÷ 18.00%	GC - internal method
limonene	59.00% ÷ 74.00%	GC - internal method
γ-terpinene	6.00% ÷ 11.00%	GC - internal method
linalool	≤0.50%	GC - internal method
citronellol	≤0.03%	GC - internal method
citral	1.00% ÷ 3.50%	GC - internal method
geraniol	≤0.10%	GC - internal method
bergaptene	≤50 ppm	HPLC - internal method
furocoumarins	≤6000 ppm	HPLC - internal method

### 3. FOOD CERTIFICATIONS

#### 3.1 Statements

Food & Natural (EU - US)	this product is solvents, preservatives and other technical adjuvants free, it is a <b>100% natural flavouring agent</b> obtained by physical processes only from one botanical source ( <i>Citrus limon</i> , (L) BURM. f.), <b>according to Reg. (EC) N. 1334/2008 Art. 3 (2)(d) &amp; Code of Federal Regulation (CFR) Title 21 - 101.22 (a)(3)</b>
Food Allergens Free (EU - US)	this product is <b>single-ingredient</b> , it is a 100% natural flavouring agent obtained by physical processes only from one botanical source ( <i>Citrus limon</i> , (L) BURM. f.) and it <b>does not contain any food allergen listed in the Annex II of Reg. (EU) Nr. 1169/2011 nor any of the nine "Major Food Allergens" as defined in the Food Allergy Safety, Treatment, Education, and Research (or FASTER) Act of 2021 of the United States of America.</b>
GMO Free	this product has been extracted from non-genetically modified plant; no enzyme and/or no GMO enzymes has been used during the production process and consequently, with reference to Regulations (EC) 1829/2003 and 1830/2003, <b>it does not contain GMO or GMO-derived product</b>

### 4. STORAGE / SHELF LIFE

#### 4.1 Precautions for safe storage

container & conditions	to be stored in stainless steel drums, preferably under inert atmosphere (nitrogen) with minimum head space, protected from day-light in a dry, aerated place, away from any heat source and ignition source
temperature	from 5 °C to 21 °C
shelf life	365 days, as per recommended storage conditions