



## Certificate of Analysis

### 1) Product Identification

Product Name: Vetiver Essential Oil  
 Botanical Name: Vetiveria zizanioides  
 Country of Origin: Indonesia  
 Cultivation Method: Conventional  
 Extraction Method: Steam Distilled  
 Plant Part: Root  
 Lot #: 1  
 Best by Date: June 2019

### 2) Physical and Chemical Properties

Appearance:	Clear, amber to brown liquid	Conforms
Odor:	Characteristic	Conforms
Specific Gravity:	0.950 to 1.040 @ 25°C	Conforms
Refractive Index:	1.510 to 1.530 @ 25°C	Conforms
Solubility:	Soluble in alcohol and oils. Insoluble in water.	Conforms

### 3) Gas Chromatography Analysis (Typical)

Components:

Ethanol	0.12%	Hedycaryol	0.21%
Furfural	0.09%	beta-Vetivenene	5.52%
5-methyl-Furfural	0.01%	Caryophyllene alcohol	0.27%
Guaiacol	0.01%	Viridiflorol	0.32%
methyl-Salicylate	0.01%	Khusimone	0.45%
4-ethyl-Guaiacol	0.01%	1-alpha-10-alpha-epoxy-Amorph-4-ene	0.47%
4-vinyl-Guaiacol	0.05%	Gleenol	0.17%
Cis-Carvone oxide	0.01%	Epicubenol	0.49%
delta-Elemene	0.03%	10-epi-gamma-Eudesmol	0.31%
alpha-Cubebene	11.45%	T-Muurolol	0.69%
Trans-Verbenyl acetate	0.10%	alpha-Muurolol	0.45%
Silphiperfol-5-ene	0.58%	epi-Zizanone	1.12%
iso-Longifolene	0.52%	14-hydroxy-9-epi-(E)-Caryophyllene	0.66%
alpha-Funebrene	0.09%	5-neo-Cedranol	1.27%

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### 3) Gas Chromatography Analysis (Typical) – Cont.

Components:

Cyperene	0.12%	beta-Funebre	2.27%
beta-Cedrene	0.25%	Vetiselinenol	0.81%
(E)-Caryophyllene	5.07%	Khusimol	3.64%
Calarene	0.18%	beta-Acoradienol	0.04%
Isoeugenol	0.87%	Occidentalol acetate	0.04%
alpha-Caryophyllene	2.18%	13-hydroxy-Valencene	0.08%
9-epi-(E)-Caryophyllene	0.50%	7,14-anhydro-Amorpha-4,9-diene	0.05%
alpha-Duprezianene	0.52%	(E)-Isovalencenol	0.46%
Aristol-1(10),8-diene	0.53%	Callicarpenal	0.27%
gamma-Muurolene	0.61%	Vetivenic acid	2.37%
alpha-Muurolene	4.05%	Aristolone	0.39%
beta-Vetispirene	1.68%	alpha-Vetivone	0.98%
delta-Cadinene	5.70%	8-Cedren-13-ol acetate	0.15%
Nootkatene	0.41%	beta-Vetivone	0.08%
Isobazzanene	0.16%	(E)-beta-Santalol acetate	0.07%
gamma-Vetivenene	1.67%	Cubitene	0.07%
Selina-4(15),7(11)-diene	0.47%	Cembrene	0.07%
alpha-Calacorene	0.28%	Isophytol	0.01%
Naphthalenol	1.55%		



#### **4) Storage Conditions**

Store at temperature <math><30^{\circ}\text{C}</math> in closed containers and protected from direct sunlight.

#### **5) Remarks**

This Essential Oil is a 100% pure and natural product.  
It does not contain any artificial ingredients or adulteration of any kind to the best of our knowledge.

#### **6) Disclaimer**

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