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Certificate of Analysis

Product: Cardamom Essential Oil
 Botanical name: *Elettaria cardamomum*
 Origin: India
 Batch (Lot) number: SA/A192807
 Date of MFG: March 2020
 Re-test date: March 2022

Parameters	Specification	Results
Appearance and odor	Clear to Pale greenish- yellow liquid. Aromatic, penetrating, and somewhat caphoraceous odor of Cardamom, and a persistently pungent, strongly aromatic taste.	Complies
Specific gravity @ 25°C (g/cm3)	0.8340 – 0.9340	0.8902
Refractive index @ 25°C	1.4500-1.4690	1.477
Optical rotation (°)	+22° - +44°	Complies
Solubility (In Alcohol)	2.5 ml	Soluble in 5 volumes of 70% alcohol, occasionally with slight opalescence.
Main Chromatographic Profile		%
α-pinene		1.99
α-thuyene		0.45
Camphene		0.13
β-pinene		0.53
Sabinene		2.99
β-Myrcene		2.61
α-terpinene		0.78
Limonene		3.95
1.8 Cineol		30.95
γ-Terpinene		1.43
p-cymene		0.26
Terpinolene		0.59
Octyl Acetate		0.15

Parameters	Specification	Results
Linalool		0.64
Linalyl acetate		0.83
β -Elemene		0.17
Terpinene 4-ol		1.85
Neral		0.19
Nerolidol		0.15
Δ -Terpenyl acetate		0.19
Δ -Terpineol		0.10
α-terpineol		2.25
α-Terpenyle acetate		41.67
Sesquiterpene		0.19

Store in well-filled, tightly sealed containers, in a cool dry place, away from direct sunlight. Avoid contact with iron.

Computer generated certificate of analysis does not require a signature.