

Certification of analysis

1. PRODUCT IDENTIFICATION AND COMPOSITION

- 1.1 Product Name: Citronella Oil
- 1.2 Botanical Name: Cymbopogon nardus
- 1.3 Batch no.: 245930

TEST SPECIFICATION RESULT

2. PHYSICAL AND CHEMICAL PROPERTIES

- 2.1 Appearance: Clear, pale yellow to yellow brown Conforms
- 2.2 Odour: Strong odour of citronella Conforms
- 2.3 Specific Gravity: 0.850 to 0.8990 @ 20° C Conforms
- 2.4 Refractive Index: 1.4540 to 1.4800 @ 20° C Conforms

CONSTITUENT SPECIFICATION RESULT

3. GAS CHROMATOGRAPH ANALYSIS Result(%)

- Alpha-pinene 0.13
- Camphene 0.13
- 6-methylhept-5-en-2-one 0.07
- Myrcene 0.11
- Limonene 3.44
- Cis-beta-ocimene 0.05
- Terpinolene 0.07
- Linalool 0.63
- Trans-isocitral 0.05
- Isopulegol 0.71
- Citronellal 42.63
- Iso-isopulegol 0.25
- Terpinene-4-ol 0.06
- Alpha-terpineol 0.08
- Citronellol 9.45 Renal 0.51
- Geraniol 24.04
- Geranial 0.64
- Citronellylacetate 1.47
- Eugenol 0.60

Geranyl acetate 2.84

Gamma-murolene 0.17

Beta-elemene 1.77

Beta-caryophyllene 0.33

Trans-alpha-bergamotene 0.14

Germacrene D 1.72

Alpha-cadinene 0.33

Gamma-cadinene 0.78

Delta-cadinene 1.21

Elemol 2.45

Germacrene D-4-ol 0.81

10-epi-gamma-eudesmol 0.14

Beta-eudesmol 0.15

Alpha-eudesmol 0.15

Note(1) Analytical conditions: GC Columns: Rxi-5SI 1 MS, Length: 30.0m, Inside Diameter: 0.25mm,

Thickness: 0.25

Mass Spectrometer: Detector Type: Quadropole Ms, Ion Source: EI, Ion Source Temp: 200.0C

Oven Temp Program: Rate: 5.0 Temperature (Degree): 50.0-270.0