

**ATRIN**

Each drop has a unique mission

**CERTIFICATE OF ANALYSIS (COA)
CLOVE ESSENTIAL OIL**

Manufacturing Date: 02 -2024 |

Expiry Date: 02 -2026

BATCH NO.: EOI1007032

PRODUCT IDENTITY

Product Name	Clove essential oil
Material	Bud
Common Name	Clove
Botanical Name	<i>Syzygium Aromaticum</i>
Extraction process	Distillation
Preservative	NIL
Pesticides Residue	Negative
Appearance	Pale yellow
Solubility	soluble in Oil
Shelf Life	2 years
Storage	Cool & Dark place
Report No	. EOI1007025
Batch Size	1000 Kg
Extraction Solvent	Distilled Water

PHYSICAL & CHEMICAL CHARACTERISTIC

Item	Test	Results	Specification Method
Description	Complies	Liquid, Colorless to light yellow	Visual
Odour & Taste	Complies	colorless to pale yellow Characteristic odor	Visual
Optical Rotation	Confrom	-1.5 to 0.0	INSO 2274-5
Refractive Index	Confrom	1.527 – 1.535	INSO 2274-6
Relative Density at 20 °C	Confrom	1.038 – 1.060	INSO 1487



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ACTIVE COMPOUNDS TEST

Item	Test Results	Unite	Method
Eugenol	94.78	%	GC-MS

HEAVY METAL TEST

Item	Specification	Method	Test Results
Total Heavy Metals (ppm)	NMT- 10 ppm	USP <730>	Complies
a) Lead (Pb)	NMT- 3.0 ppm	USP <730>	Complies
b) Arsenic (As)	NMT-1.0 ppm	USP <730>	Complies
c) Cadmium (Cd)	NMT-1.0 ppm	USP <730>	Complies
d) Mercury (Hg)	NMT- 0.5 ppm	USP <730>	Complies

MICROBIOLOGICAL TEST

Item	Specification	Method	Test Results
Total plate	count NMT-5000 Cfugm	Eur.Ph <2.6.12>	10 Cfug
E.coli	Absent	Eur.Ph <2.6.13>	Absent
Salmonella	Absent	Eur.Ph <2.6.13>	Absent
Pseudomonas aeruginosa	Absent	Eur.Ph <2.6.13>	Absent
Staphylococcus aureus	Absent	Eur.Ph <2.6.13>	Absent
Yeast & Mould counts	NMT-500 Cfugm	Eur.Ph <2.6.12>	Less than 10 Cfug



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