

**ATRIN**

Each drop has a unique mission

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

Manufacturing Date: 8 -2025 |

Expiry Date: 08 -2027

BATCH NO.: EOI1007039

**PRODUCT IDENTITY**

<b>Product Name</b>	Cumin essential oil
<b>Material</b>	Seed
<b>Common Name</b>	Cumin
<b>Botanical Name</b>	<i>Cuminum cyminum</i>
<b>Extraction process</b>	Distillation
<b>Preservative</b>	NIL
<b>Pesticides Residue</b>	Negative
<b>Appearance</b>	Light yellow
<b>Solubility</b>	soluble in Oil
<b>Shelf Life</b>	2 years
<b>Storage</b>	Cool & Dark place
<b>Report No</b>	EOI10070441
<b>Batch Size</b>	350 Kg
<b>Extraction Solvent</b>	Distilled Water

**PHYSICAL & CHEMICAL CHARACTERISTIC**

Item	Test	Results	Specification Method
Description	Complies	Liquid, Colorless to light yellow	<b>Visual</b>
Odour & Taste	Complies	colorless to pale yellow Characteristic odor	<b>Visual</b>
Optical Rotation	+3.4	+3 to +8	<b>USP 781</b>
Refractive Index	1.504	-	<b>Refractometer/Ph.Eur</b>
Relative Density at 20 °C	0.915	0.895 to 0.925	<b>USP 841</b>

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## ACTIVE COMPOUNDS TEST

Item	Test Results	Unite	Method
Cuminal	33.53	%	GC-MS

## HEAVY METAL TEST

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

## MICROBIOLOGICAL TEST

Item	Specification	Method	Test Results
<b>Total plate</b>	count NMT-5000 Cfu/gm	Eur.Ph <2.6.12>	25 Cfu/g
<b>E.coli</b>	Absent	Eur.Ph <2.6.13>	Absent
<b>Salmonella</b>	Absent	Eur.Ph <2.6.13>	Absent
<b>Pseudomonas aeruginosa</b>	Absent	Eur.Ph <2.6.13>	Absent
<b>Staphylococcus aureus</b>	Absent	Eur.Ph <2.6.13>	Absent
<b>Yeast &amp; Mould counts</b>	NMT-500 Cfu/gm	Eur.Ph <2.6.12>	Less than 10 Cfu/g



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