

# CERTIFICATE OF ANALYSIS

PRODUCT NAME: PEPPER OIL BLACK  
BOTANICAL NAME: *Piper nigrum*  
COUNTRY OF ORIGIN: INDIA

TEST (UNIT)	SPECIFICATION	RESULT
APPEARANCE	MOBILE LIQUID	MOBILE LIQUID
COLOUR	COLOURLESS TO SLIGHTLY GREENISH YELLOW	ALMOST COLOURLESS
CLARITY	CLEAR, NO FOREIGN MATTER	CLEAR, NO FOREIGN MATTER
ODOUR	CHARACTERISTIC SPICY, PEPPER	CHARACTERISTIC
SPECIFIC GRAVITY @ 20°C	0.850 to 0.896	0.874
OPTICAL ROTATION @ 20°C	-28° to +4°	-8°
REFRACTIVE INDEX @ 20°C	1.470 to 1.502	1.482
<b>CHROMATOGRAPHIC PROFILE</b>		
ALPHA-PINENE (%)	2.0 to 20.0	10.6
SABINENE (%)	Trace to 15.0	11.9
BETA-PINENE (%)	5.0 to 20.0	10.3
ALPHA-PHELLANDRENE (%)	Trace to 5.0	1.1
DELTA-3-CARENE (%)	Trace to 15.0	11.1
LIMONENE (%)	Trace to 25.0	15.4
BETA-CARYOPHYLLENE (%)	5.0 to 35.0	27.0