

Certificate of Analysis

Product: ROSEMARY OIL
Botanical Name: *Rosmarinus officinalis*
Country of Origin: Spain

PHYSICAL AND CHEMICAL PROPERTIES

TEST (UNIT)	SPECIFICATION	RESULT
APPEARANCE	MOBILE LIQUID	MOBILE LIQUID
COLOUR	COLOURLESS TO PALE YELLOW	PALE YELLOW
CLARITY	CLEAR, NO FOREIGN MATTER	CLEAR, NO FOREIGN MATTER
ODOUR	FINE, DELICATE, FRESH-HERBACEOUS TOP NOTE, BALSAMIC-WOODY DRYOUT	CHARACTERISTIC
SPECIFIC GRAVITY @ 20° C	0.895 to 0.920	0.904
OPTICAL ROTATION @ 20° C	-5.0° to +8.0°	2.5°
REFRACTIVE INDEX @ 20° C	1.464 to 1.473	1.470

GAS CHROMATOGRAPH ANALYSIS (TYPICAL)

Peak Name	Result area (%)
tricyclene	0.29
alpha-thujene	0.06
alpha-pinene	17.73
camphene	7.18
thuja-2,4(10)-diene	0.26
sabinene	0.18
beta-pinene	2.87
3-octanone	0.17
myrcene	2.58
alpha-phellandrene	0.38
delta-3-carene	0.32
alpha-terpinene	0.54
p-cymene	1.47
limonene	3.63
1,8-cineole	20.60

cis-beta-ocimene	0.11
trans-beta-ocimene	0.02
gamma-terpinene	0.91
cis-sabinene hydrate	0.01
terpinolene	0.70
linalool	0.89
camphor	23.20
borneol	3.77
cis-pinocamphone	0.10
terpinen-4-ol	0.81
alpha-terpineol	2.48
verbenone	2.28
bornyl acetate	0.87
beta-caryophyllene	2.53
alpha-humulene	0.46
gamma-muurolene	0.06
delta-cadinene	0.10