

CERTIFICATE OF ANALYSIS
Cumin Essential oil

Product Name: Cumin Essential oil

Botanical Name: *Cuminum cyminum* L.

Extraction process: hydro-distillation

ROW	TEST		REFERENCE METHOD	METHOD (CODE)	RESULT
1	Color		Visually & organoleptic	In House	Yellow
2	Clarity				Clear
3	Odor				Special
4	Specific Gravity (g/ml)		USP38-<841>	WCL11	0.904
5	Refractive Index (nD)		ISIRI2274-6	WCL14	1.4964
6	Optical Rotation (⁰)		ISIRI 2274-5	WCL10	5.26
7	Solubility		In House	WCL108	Clear
8	Freeze point(⁰ C)		In House	WCL106	-
9	Wax (%)		In House	WCL107	-
10	Manufacture C.W		In House	In House	Clear
11	Assay	α -pinene(%)	ISIRI16019 BP 2015	WCL112	1.71
		β -pinene(%)			15.84
		α -phellandren(%)			0.68
		Myrcene(%)			0.99
		α -terpinene(%)			-
		Limonene(%)			0.87
		β -phellandren(%)			-
		γ -terpinene(%)			-
		p-cymene(%)			19.12
		p-mentha 3-en-7-al(%)			-
		Cumin aldehyde(%)			26.48
		p-mentha-1,3-en-7-al(%)			-
p-mentha-1,4-en-7-al(%)	-				