

## Certificate of Analysis - Catnip

<b>Sample:</b> Catnip Oil
<b>Species:</b> Nepeta cataria
<b>Origin:</b> Canada

ID	FID %
2-Thiapropane	0.01%
ISO VALERALDEHYDE	0.02%
2-methyl-butanal	0.02%
2-ethyl-furan	0.07%
trans-2-hexenal	0.03%
Styrene	0.07%
THUJENE<ALPHA->	0.03%
PINENE<ALPHA->	0.22%
SABINENE	0.17%
PINENE<BETA->	1.17%
3-Butenyl isothiocyanate	0.05%
PHELLANDRENE<ALPHA->	0.15%
TERPINENE<ALPHA->	0.02%
CYMENE <PARA->	0.02%
LIMONENE	0.24%
OCIMENE<(Z)-BETA->	0.28%
OCIMENE<(E)-BETA->	0.93%
TERPINENE<GAMMA->	0.04%
NONANAL	0.07%
MENTHONE<ISO->	0.02%
METHYL SALICYLATE	0.02%
unidentified	0.46%

ID	FID %
beta-Cyclocitral	0.02%
PULEGONE	0.04%
CARVONE	0.22%
GERANIAL	0.05%
TRIDECANE	0.04%
NEPETALACTONE 1	29.71%
NEPETALACTONE 2	45.27%
NEPETALACTONE 3	1.78%
ISO-CARYOPHYLLENE	0.12%
BETA-CARYOPHYLLENE	10.78%
HUMULENE<ALPHA->	1.35%
VALENCENE	0.12%
NEPETALACTONE 4	0.67%
NEPETALACTONE 5	0.09%
NEPETALACTONE 6	3.41%
NEPETALACTONE 7	0.07%
NEPETALACTONE 8	0.04%
NEPETALACTONE 9	0.04%
CARYOPHYLLENE OXIDE	1.00%

The sample was analyzed with simultaneous MS and FID detection. Components were identified by MS while percentages were determined by the more accurate FID. The composition corresponds to that expected for the oil of *Nepeta cataria*. Approximately 200 peaks were found in the oil. The list for the major components (above 0.01%) is shown at the right. A total of 11 nepetalactone isomers were detected with only 9 of them being 0.01% or more. There are 5 major nepetalactone isomers present at 0.1% or more. The numbering system for nepetalactones was used since the exact structures of all isomers have not yet been firmly identified. Total nepetalactone of this lot was over 81% and previous lots have measured as high as 90%. Absolutely no pesticides residues were detected.