

Certificate of Analysis- Pure Analytics InfoTest™

Customer Name: *Medicleaf*
Sample Name: *Medicleaf Topical Spray - Peppermint*
Sample Batch I.D.: *NA*
Lab Sample I.D.: *PAN2331-8*
Sample Type: *Topical*
Date Received: *12/30/2021*
Date Tested: *1/4-1/7/2021*
Date Reported: *1/7/2021*
QC Batch(es): *PA16826*
Tests Performed: *Cannabinoids*

Results Summary:

Item	Report Status
Cannabinoids	NA
Pesticides	NT
Residual Solvent	NT
Moisture	NT
Microbiology	NT
Water Activity	NT
Filth & Foreign	NT
Mycotoxins	NT
Heavy Metals	NT
Terpenes	NT



Cannabinoid Analysis:

THC	THCA	d-8 THC	CBD	CBDA	CBN	CBC	CBCA	CBG	CBGA	CBL	THCV	THCVA	CBDV	CBDVA	Total THC*	Total CBD**	Total
% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.	% wt.
0.10%	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10%	NA	0.10%
mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL	mg/mL
1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.00	NA	1.00
mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

*Flowers Reported on % DRY WT. Basis; *Total THC=(THCA * 0.877) + THC + d-8 THC; **Total CBD=(CBDA * 0.877) + CBD
 Method: Extraction by Methanol, IPA, Acetonitrile or Ethanol with sonication and HPLC-DAD confirmation analysis as needed by GC-FID analysis*

Residual Solvent:

Method: Full Evaporation Technique by GC-MS

CA CATEGORY 1

Compound	(ug/g)	Inhal. Action Lim. (ug/g)	Other Action Lim. (ug/g)	PASS/FAIL	LOQ (ug/g)	LOD (ug/g)	NOTES:
1,2-Dichloroethane	NA	1.0	1.0	NA	1.00	0.80	
Benzene	NA	1.0	1.0	NA	1.00	0.20	
Chloroform	NA	1.0	1.0	NA	1.00	0.20	
Ethylene Oxide	NA	1.0	1.0	NA	1.00	0.80	
Methylene chloride	NA	1.0	1.0	NA	1.00	0.80	
Trichloroethylene	NA	1.0	1.0	NA	1.00	0.20	

CA CATEGORY 2

Compound	(ug/g)	Inhal. Action Lim. (ug/g)	Other Action Lim. (ug/g)	PASS/FAIL	LOQ (ug/g)	LOD (ug/g)	NOTES:
n-Butane	NA	5000	5000	NA	2.0	0.50	
n-Pentane	NA	5000	5000	NA	2.0	0.50	
Acetone	NA	5000	5000	NA	2.0	0.50	
Ethanol	NA	5000	5000	NA	2.0	0.50	
n-Hexane	NA	290	290	NA	2.0	0.50	
Methanol	NA	3000	3000	NA	2.0	0.50	
2-Propanol	NA	5000	5000	NA	2.0	0.50	
Acetonitrile	NA	410	410	NA	5.0	1.00	
Ethyl acetate	NA	5000	5000	NA	2.0	0.50	
n-Heptane	NA	5000	5000	NA	2.0	0.50	
Ether	NA	5000	5000	NA	2.0	0.50	
Toluene	NA	890	890	NA	2.0	0.50	
Ethyl xylenes	NA	2170	2170	NA	2.0	0.50	
Propane	NA	5000	5000	NA	2.0	0.50	
Total Cat. 1 & 2	NA						

Heavy Metals:

Method: Acid digestion in heated block. Analysis using graphite furnace, atomic fluorescence spectroscopy, atomic absorption decomposition analysis

Compound	(ug/g)	Inhal. Action Lim. (ug/g)	Other Action Lim. (ug/g)	PASS/FAIL	LOQ (ug/g)	LOD (ug/g)	NOTES:
Mercury	NA	0.1	3	NA	0.03	0.006	
Lead	NA	0.5	0.5	NA	0.10	0.020	
Cadmium	NA	0.2	0.5	NA	0.02	0.004	
Arsenic	NA	0.2	1.5	NA	0.20	0.040	

Microbiology Analysis:

Analysis	PASS/FAIL	Analysis	CFU/g
E. coli	NA	APC	NA
Salmonella	NA	Total coliform	NA
Aspergillus	NA	Pseudomonas	NA
<i>nigers</i> NA	<i>terreus</i> NA	Total yeast & mold	NA
<i>flavus</i> NA	<i>fumigatus</i> NA	Enterobacteriaceae	NA

Testing performed by:

Pure Analytics
 5468 Skylane Blvd Ste 102
 Santa Rosa, CA 95403
 CA License #: C8-000018-LIC

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Approved by: *Samantha J. Miller*

Certificate of Analysis- Pure Analytics InfoTest™

Customer Name: *Medicleaf*
Sample Name: *Medicleaf Topical Spray - Peppermint*
Lab Sample I.D.: *PAN2331-8*
Pesticides Analysis:
Method: Acetone extraction with sonication, dSPE clean-up, LCMSMS and GC-ECD analysis

Compound	Result (ug/g)	Action lim. (ug/g)	PASS/FAIL	LOQ (ug/g)	LOD (ug/g)	NOTES
CA CATEGORY I						
Aldicarb	NA	> LOD	NA	0.020	0.005	
Carbofuran	NA	> LOD	NA	0.010	0.001	
Chlordane	NA	> LOD	NA	0.020	0.005	
Chlorfenapyr	NA	> LOD	NA	0.100	0.020	
Chlorpyrifos	NA	> LOD	NA	0.100	0.020	
Coumaphos	NA	> LOD	NA	0.100	0.005	
Daminozide	NA	> LOD	NA	0.100	0.010	
Dichlorvos	NA	> LOD	NA	0.010	0.001	
Dimethoate	NA	> LOD	NA	0.100	0.020	
Ethoprop	NA	> LOD	NA	0.100	0.020	
Etofenprox	NA	> LOD	NA	0.010	0.001	
Fenoxycarb	NA	> LOD	NA	0.020	0.005	
Fipronil	NA	> LOD	NA	0.020	0.005	
Imazalil	NA	> LOD	NA	0.100	0.005	
Methiocarb	NA	> LOD	NA	0.100	0.005	
Parathion-methyl	NA	> LOD	NA	0.100	0.010	
Mevinphos	NA	> LOD	NA	0.100	0.050	
Paclbutrazol	NA	> LOD	NA	0.100	0.005	
Propoxur	NA	> LOD	NA	0.010	0.001	
Spiroxamine	NA	> LOD	NA	0.010	0.001	
Thiacloprid	NA	> LOD	NA	0.020	0.005	

Mycotoxin Analysis:
Method: Acetone extraction with sonication, dSPE clean-up, LCMSMS analysis

Compound	Result (ug/kg)	Action lim. (ug/kg)	PASS/FAIL	LOQ (ug/kg)	LOD (ug/kg)	NOTES
Aflatoxin B1	NA	NA	NA	2.0	0.5	
Aflatoxin B2	NA	NA	NA	2.0	0.5	
Aflatoxin G1	NA	NA	NA	2.0	0.5	
Aflatoxin G2	NA	NA	NA	2.0	0.5	
Total Aflatoxin	NA	<20 ug/kg	NA	2.0	0.5	
Ochratoxin A	NA	<20 ug/kg	NA	2.0	0.5	

Compound	Result (ug/g)	Action lim. (ug/g)		PASS/FAIL	LOQ (ug/g)	LOD (ug/g)	NOTES
		(Inhale)	(Other)				
Abamectin	NA	0.1	0.3	NA	0.10	0.001	
Acephate	NA	0.1	5	NA	0.10	0.02	
Acequinocyl	NA	0.1	4	NA	0.02	0.02	
Acetamiprid	NA	0.1	5	NA	0.02	0.02	
Azoxystrobin	NA	0.1	40	NA	0.02	0.01	
Bifenazate	NA	0.1	5	NA	0.02	0.001	
Bifenthrin	NA	3	0.5	NA	0.10	0.005	
Boscalid	NA	0.1	10	NA	0.02	0.01	
Captan	NA	0.7	5	NA	0.01	0.005	
Cyfluthrin	NA	2	1	NA	0.10	0.001	
Cypermethrin	NA	1	1	NA	0.10	0.05	
Carbaryl	NA	0.5	0.5	NA	0.02	0.001	
Chlorantraniliprole	NA	10	40	NA	0.02	0.01	
Clofentezine	NA	0.1	0.5	NA	0.02	0.001	
Diazinon	NA	0.1	0.2	NA	0.02	0.001	
Dimethomorph	NA	2	20	NA	0.02	0.001	
Etoxazole	NA	0.1	1.5	NA	0.02	0.005	
Fenhexamid	NA	0.1	10	NA	0.01	0.001	
Fenpyroximate	NA	0.1	2	NA	0.02	0.01	
Fonicamid	NA	0.1	2	NA	0.02	0.001	
Fludioxonil	NA	0.1	30	NA	0.10	0.02	
Hexythiazox	NA	0.1	2	NA	0.02	0.01	
Imidacloprid	NA	5	3	NA	0.10	0.02	
Kresoxim-methyl	NA	0.1	1	NA	0.02	0.02	
Malathion	NA	0.5	5	NA	0.20	0.001	
Metalaxyl	NA	2	15	NA	0.02	0.01	
Methomyl	NA	1	0.1	NA	0.02	0.001	
Myclobutanil	NA	0.1	9	NA	0.005	0.001	
Naled	NA	0.1	0.5	NA	0.10	0.02	
Oxamyl	NA	0.5	0.2	NA	0.05	0.01	
Pentachloronitrobenz.	NA	0.1	0.2	NA	0.10	0.02	
Permethrin	NA	0.5	20	NA	0.025	0.005	
Phosmet	NA	0.1	0.2	NA	0.02	0.02	
Piperonyl butoxide	NA	3	8.0	NA	0.005	0.001	
Prallethrin	NA	0.1	0.4	NA	0.02	0.01	
Propiconazole	NA	0.1	20.0	NA	0.02	0.01	
Pyrethrins	NA	0.5	1	NA	0.07	0.01	
Pyridaben	NA	0.1	3	NA	0.02	0.001	
Spinetoram	NA	0.1	3	NA	0.07	0.005	
Spinosad	NA	0.1	3	NA	0.10	0.02	
Spiromesifen	NA	0.1	12	NA	0.10	0.02	
Spirotetramat	NA	0.1	13	NA	0.10	0.02	
Tebuconazole	NA	0.1	2	NA	0.10	0.02	
Trifloxystrobin	NA	0.10	30	NA	0.01	0.005	
Thiamethoxam	NA	5	4.5	NA	0.10	0.01	

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Customer Name: *Medicileaf*

Sample Name: *Medicileaf Topical Spray - Peppermint*

Lab Sample I.D.: *PAN2331-8*

Terpene Analysis:

Method: Methanol Extraction with Sonication and GC-FID Analysis

Compound	% wt.	Action lim. (ug/kg)	PASS/ FAIL	LOQ (ug/kg)	LOD (ug/kg)	NOTES
α-Pinene	NA	NA	NA	0.01	0.005	
Camphene	NA	NA	NA	0.01	0.005	
β-Pinene	NA	NA	NA	0.01	0.005	
β-Myrcene	NA	NA	NA	0.01	0.005	
3-Carene	NA	NA	NA	0.01	0.005	
R-Limonene	NA	NA	NA	0.01	0.005	
Eucalyptol	NA	NA	NA	0.01	0.005	
Ocimene	NA	NA	NA	0.01	0.005	
γ-Terpinene	NA	NA	NA	0.01	0.005	
Terpinolene	NA	NA	NA	0.01	0.005	
Linalool	NA	NA	NA	0.01	0.005	
Fenchol	NA	NA	NA	0.01	0.005	
(+)-Pulegone	NA	NA	NA	0.01	0.005	
Menthol	NA	NA	NA	0.01	0.005	
Borneol	NA	NA	NA	0.01	0.005	
α-Terpineol	NA	NA	NA	0.01	0.005	
Geraniol	NA	NA	NA	0.01	0.005	
β-Caryophyllene	NA	NA	NA	0.01	0.005	
α-Humulene	NA	NA	NA	0.01	0.005	
Valencene	NA	NA	NA	0.01	0.005	
Farnesene	NA	NA	NA	0.01	0.005	
trans-Nerolidol	NA	NA	NA	0.01	0.005	
cis-Nerolidol	NA	NA	NA	0.01	0.005	
Guaiol	NA	NA	NA	0.01	0.005	
α-Bisabolol	NA	NA	NA	0.01	0.005	
Eicosane	NA	NA	NA	0.01	0.005	
Camphor	NA	NA	NA	0.01	0.005	
L-Fenchone	NA	NA	NA	0.01	0.005	
Sabinene	NA	NA	NA	0.01	0.005	
β-Caryoph. Ox.	NA	NA	NA	0.01	0.005	
Phytol	NA	NA	NA	0.01	0.005	
a-Phellandrene	NA	NA	NA	0.01	0.005	
Total %	NA					

Filth & Foreign Material Inspection:

Filth & Foreign Material by method 89370.96 using stereo microscope

Filth & Foreign Inspection

Observations: PASS/ FAIL
NA

Water Activity Analysis:

Water Activity by method 89370.98 on a Novasina LabTouch-aw

Water Activity	Result	Action Limit (Aw)		PASS/ FAIL
		Inhale	Other	
Aw	NA	0.65	0.85	NA

Moisture Content Analysis:

Moisture Content method by method 89370.98 using ThermoFisher programmable oven

Moisture Content	Result	Action Limit	PASS/ FAIL
% Moisture	NA	13.0%	NA

Vitamin E Acetate Analysis:

Method: Extraction by Acetone with sonication and analysis by HPLC-DAD

Compound	Result	Action Limit (mg/kg)	LOQ (mg/kg)
Vitamin E Acetate	NA	NA	5.00

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