



100 south 5th street, suite 1085
minneapolis, minnesota 55402

1.800.665.HEMP
www.manitobaharvest.com

CERTIFICATE OF ANALYSIS

Product:	Broad Spectrum Hemp Extract Spray – Peppermint
Lot No:	190604
Source Lot No:	E19014-2
SKU#:	6121
Date of Manufacture:	May 10, 2019
Best Before Date:	May 10, 2021
Ingredients:	Broad Spectrum Hemp Extract (<i>Cannabis sativa</i>) (aerial parts). Other ingredients: Organic Coconut Oil MCT, Organic Peppermint Oil.

Test	Analytical Result	Specification	Testing Method
PROFILE			
CBD (total)	10.80 mg/mL	8-12 mg/mL	HPLC (LOQ <50 ppm)
CBD	1.06 wt. %	<i>Report only</i>	HPLC (LOQ <50 ppm)
CBDA	ND	<i>Report only</i>	HPLC (LOQ <50 ppm)
CBC	0.01 wt. %	<i>Report only</i>	HPLC (LOQ <50 ppm)
CBCA	ND	<i>Report only</i>	HPLC (LOQ <50 ppm)
CBG	0.07 wt. %	<i>Report only</i>	HPLC (LOQ <50 ppm)
CBGA	ND	<i>Report only</i>	HPLC (LOQ <50 ppm)
CBN	ND	<i>Report only</i>	HPLC (LOQ <50 ppm)
Δ9 THC (total)	ND	< 0.01%	Calculated
Δ9 THC	ND	<i>Report only</i>	HPLC (LOQ <50 ppm)
THCA	ND	<i>Report only</i>	HPLC (LOQ <50 ppm)
TERPENES			
Total Terpenes	0.3 wt. %	<i>Report only</i>	GC-MS
(-)-alpha-Bisabolol	10mg/100g	<i>Report only</i>	GC-MS
Camphene	<1.0mg/100g	<i>Report only</i>	GC-MS
(1S)-(+)-3-Carene	<1.0mg/100g	<i>Report only</i>	GC-MS
beta-Caryophyllene	61mg/100g	<i>Report only</i>	GC-MS
p-Cymene	2.9mg/100g	<i>Report only</i>	GC-MS



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Eucalyptol	110mg/100g	<i>Report only</i>	GC-MS
alpha-Humulene (alpha-Caryophyllene)	4.2mg/100g	<i>Report only</i>	GC-MS
(-)-Isopulegol	<1.0mg/100g	<i>Report only</i>	GC-MS
(R)-(+)-Limonene	38mg/100g	<i>Report only</i>	GC-MS
Linalool	3.4mg/100g	<i>Report only</i>	GC-MS
beta-Myrcene	5.4mg/100g	<i>Report only</i>	GC-MS
(E)-b-Ocimene	0.73mg/100g	<i>Report only</i>	GC-MS
(Z)-b-Ocimene	2.5mg/100g	<i>Report only</i>	GC-MS
alpha-Pinene	11mg/100g	<i>Report only</i>	GC-MS
beta-Pinene	15mg/100g	<i>Report only</i>	GC-MS
alpha-Terpinene	5.6mg/100g	<i>Report only</i>	GC-MS
gamma-Terpinene	7.9mg/100g	<i>Report only</i>	GC-MS
Terpinolene	2.8mg/100g	<i>Report only</i>	GC-MS
MICROBIOLOGICAL			
Standard Plate Count	< 10 cfu/g	< 10,000 cfu/g	AOAC 966.23
Total Coliforms	< 10 cfu/g	< 100 cfu/g	AOAC 991.14
Yeast & Mold	< 10 cfu/g	< 1,000 cfu/g	FDA BAM ch.18
<i>E. coli</i>	< 10 cfu/g	< 10 cfu/g	AOAC 991.14
<i>Salmonella</i>	Negative	Negative in 25g	AOAC 2004,03
MYCOTOXINS			
Aflatoxin B1	<0.500 ppb	< 20 ppb	UHPLC-MS/MS
Aflatoxin B2	<0.500 ppb	< 20 ppb	UHPLC-MS/MS
Aflatoxin G1	<0.500 ppb	< 20 ppb	UHPLC-MS/MS
Aflatoxin G2	<0.500 ppb	< 20 ppb	UHPLC-MS/MS
Aflatoxin M1	<0.500 ppb	< 20 ppb	UHPLC-MS/MS
Aflatoxin M2	<0.500 ppb	< 20 ppb	UHPLC-MS/MS
Deoxynivalenol	<100 ppb	<i>Report only</i>	UHPLC-MS/MS
T-2 Toxin	<10.0 ppb	<i>Report only</i>	UHPLC-MS/MS
HT-2 Toxin	<100 ppb	<i>Report only</i>	UHPLC-MS/MS
Fumonisin B1	<25.0 ppb	<i>Report only</i>	UHPLC-MS/MS
Fumonisin B2	<25.0 ppb	<i>Report only</i>	UHPLC-MS/MS



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Ochratoxin A	<1.00 ppb	<i>Report only</i>	UHPLC-MS/MS
Zearalenone	<30.0 ppb	<i>Report only</i>	UHPLC-MS/MS
CHEMICAL			
Residual Solvents	ND	No detection	USP <467>
Pesticides	ND	No detection	LC/MS/MS; AOAC 2007.01
Lead	< 0.05 ppm	< 0.5 ppm	AOAC 993.14
Arsenic	< 0.10 ppm	< 0.2 ppm	
Cadmium	< 0.05 ppm	< 0.1 ppm	
Mercury	< 0.05 ppm	< 0.1 ppm	
Gluten	< 3 ppm	< 20 ppm	AOAC 991.19
ORGANOLEPTIC			
Appearance	Conforms	Liquid	Visual
Color	Conforms	Yellow to Amber	Visual
Odor	Conforms	Mint	Olfactory
PHYSICAL DOSAGE			
Fill Volume	32 ml	≥ 30 ml	QCU-90-005
Density	0.96 g/ml	0.96-0.98 g/ml	AP-CHE-015
Discharges	240	240	Internal method

* ND = Not detected.

Aaron Cassels
 Quality Control Coordinator

August 21, 2019
 Date