

HIGH NORTH ID:
00311043
Date: 2023-03-16
Certificate: 1678989225



High North Inc.
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LIC-P4PNJMAC20-2022

Client: Motif Labs Ltd.
516 John St N, Unit 7C,
Aylmer, ON, N5H 2B8
Name: Lucy Hu
519-722-9393
lucy@motiflabs.ca
Strain: VLAGP23001 -Vape
formulation
Lot: VLAGP23001 -Vape
formulation
Matrix: Oil
Sub-matrix: Concentrate
Sampled: 2023-03-06
Received: 2023-03-13

Certificate of Analysis

Cannabinoid Analysis	LOD (%)	LOQ (%)	wt%	mg/g
Total THC [(THCA x 0.877) + D9-THC]			36.274	362.741
Total CBD [(CBDA x 0.877) + CBD]			39.376	393.759
CBD	0.0081	0.6	38.692	386.917
D9-THC	0.0086	0.6	26.242	262.418
THCA-A	0.004	0.6	11.439	114.393
CBC	0.0092	0.6	1.84	18.404
CBG	0.0028	0.6	1.521	15.207
CBGA	0.007	0.6	0.947	9.47
CBDA	0.008	0.6	0.78	7.802
CBN	0.0069	0.6	BLQ	BLQ
CBDV	0.0073	0.6	BLQ	BLQ
THCV	0.0068	0.6	BLQ	BLQ
D8-THC	0.0074	0.6	ND	ND
Total of all quantified cannabinoids:			81.461	814.611

Terpene Analysis	LOD (%)	LOQ (%)	wt%
Farnesene*	0.0055	0.050	1.156
Trans-Caryophyllene	0.0008	0.025	1.099
Alpha-Humulene	0.0005	0.025	0.376
(R)-(+)-Limonene	0.0007	0.025	0.316
Beta-Myrcene	0.0005	0.025	0.267
Alpha-Bisabolol	0.0008	0.025	0.195
Linalool	0.0007	0.025	0.105
Alpha-Pinene	0.0007	0.025	0.092
(R)-Endo-(+)-Fenchyl Alcohol	0.0010	0.025	0.062

Abbreviations: wt% = percentage of weight, CFU = colony forming units, ppm = Parts per million, ppb = Parts per billion, ND = None Detected, BLQ = Below Limit of Quantification, LOQ = Limit of Quantification, LOD = Limit of Detection, RL = Reporting Limit, * = Mixture of Isomers

Authorized by:


Kintesh Sutaria
QA Specialist

Terpene Analysis	LOD (%)	LOQ (%)	wt%
Beta-Pinene	0.0008	0.025	0.048
Guaiol	0.0005	0.025	0.037
Squalene	0.0029	0.050	BLQ
Caryophyllene oxide	0.0007	0.025	BLQ
Alpha-Terpineol	0.0008	0.025	BLQ
trans-Nerolidol	0.0006	0.025	BLQ
Camphene	0.0017	0.025	BLQ
Ocimene	0.0005	0.025	BLQ
Terpinolene	0.0008	0.025	BLQ
Gamma-Terpinene	0.0007	0.025	BLQ
Fenchone	0.0008	0.025	BLQ
Borneol	0.0007	0.025	BLQ
Phytol*	0.0018	0.050	ND
Nootkatone	0.0018	0.025	ND
Farnesol*	0.0016	0.050	ND
Phytane	0.0009	0.025	ND
(+)-Cedrol	0.0006	0.025	ND
cis-Nerolidol	0.0015	0.025	ND
Valencene	0.0005	0.025	ND
Eugenol	0.0023	0.025	ND
Alpha-Cedrene	0.0006	0.025	ND
Geranyl acetate	0.0009	0.025	ND
Carvacrol	0.0009	0.025	ND
Thymol	0.0012	0.025	ND
d-Valerolactam (2-piperidone)	0.0012	0.025	ND
(-)-Piperitone	0.0017	0.025	ND
Isobornyl Acetate	0.0018	0.025	ND
Carvone	0.0007	0.025	ND
Pulegone	0.0007	0.025	ND
Verbenone	0.0007	0.025	ND
Citral*	0.0021	0.025	ND
Geraniol	0.0007	0.025	ND
Safranal	0.0004	0.025	ND
Nerol	0.0010	0.025	ND
Citronellol	0.0008	0.025	ND
Octyl Acetate	0.0009	0.025	ND
Terpinen-4-ol	0.0010	0.025	ND
Camphor	0.0008	0.025	ND
Isoborneol	0.0006	0.025	ND
Menthol (Hexahydrothymol)	0.0010	0.025	ND
Menthone*	0.0007	0.025	ND
Isopulegol	0.0007	0.025	ND
Alpha-Thujone	0.0005	0.025	ND

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Terpene Analysis	LOD (%)	LOQ (%)	wt%
Sabinene Hydrate	0.0010	0.025	ND
Eucalyptol	0.0006	0.025	ND
Cymene*	0.0006	0.025	ND
Alpha-Terpinene	0.0004	0.025	ND
Alpha-Phellandrene	0.0010	0.025	ND
(1S)-3-Carene	0.0009	0.025	ND
Sabinene	0.0009	0.025	ND
Total of all quantified terpenes:			3.753

Foreign Matter Analysis None Detected

Mycotoxin Analysis	LOD (ppb)	LOQ (ppb)	RL (ppb)	Result (ppb)	Status
Aflatoxin-B1	0.4000	2	2	ND	PASS
Aflatoxin-B2	0.4000	2		ND	PASS
Aflatoxin-G1	0.3000	2		ND	PASS
Aflatoxin-G2	0.5000	2		ND	PASS
Sum of Aflatoxins:			4	0	PASS
Ochratoxin-A	1.7000	20	20	ND	PASS

Microbial Analysis	LOD (CFU/g)	RL (CFU/g)	Result (CFU/g)	Status
Total Aerobic Count	12	100	ND	PASS
Total Yeast and Mold Count	1.8	10	ND	PASS
Bile-Tolerant Gram-Negative			Absent in 1g	PASS
S.aureus/P.aeruginosa			Absent in 1g	PASS
Salmonella			Absent in 10g	PASS
E.coli			Absent in 1g	PASS

Heavy Metals Analysis	LOD (ppm)	LOQ (ppm)	RL (ppm)	Result (ppm)	Status
Arsenic	0.067	0.200	0.2	ND	PASS
Cadmium	0.008	0.047	0.3	ND	PASS
Lead	0.010	0.497	0.5	BLQ	PASS
Mercury	0.003	0.052	0.1	ND	PASS

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Residual Solvents Analysis	LOD (ppm)	LOQ (ppm)	RL (ppm)	Result (ppm)	Status
1-Butanol	22.7	1000	5,000	ND	PASS
1-Pentanol	28.9	1000	5,000	ND	PASS
1-Propanol	44.6	1000	5,000	ND	PASS
2-Butanol	20.1	1000	5,000	ND	PASS
2-Methyl-1-propanol	11.6	1000	5,000	ND	PASS
2-Propanol	13.3	1000	5,000	ND	PASS
3-Methyl-1-butanol	16.8	1000	5,000	ND	PASS
Acetone	19.4	1000	5,000	ND	PASS
Anisole	104	1000	5,000	ND	PASS
Butyl acetate	67.3	1000	5,000	ND	PASS
Dimethyl sulfoxide	55.8	1000	5,000	ND	PASS
Ethanol	34.5	1000	5,000	ND	PASS
Ethyl acetate	17.3	1000	5,000	ND	PASS
Ethyl ether	27	1000	5,000	ND	PASS
Ethyl formate	92.5	1000	5,000	ND	PASS
Heptane	19.2	1000	5,000	ND	PASS
Isobutyl acetate	28.4	1000	5,000	ND	PASS
Isopropyl acetate	13.5	1000	5,000	ND	PASS
Methyl acetate	26.9	1000	5,000	ND	PASS
Methylethyl ketone	13.1	1000	5,000	ND	PASS
Pentane	35.7	1000	5,000	ND	PASS
Propyl acetate	13.5	1000	5,000	ND	PASS
Tert-Butylmethyl ether	134.2	1000	5,000	ND	PASS
Triethylamine	22.4	1000	5,000	ND	PASS

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Details of Testing

Cannabinoid Analysis

LAB-MTD-020: Determination of 11 Cannabinoids in Cannabis Flower (LOQ 0.06%), Fresh Flower (LOQ 0.015%), Oil (LOQ 0.03%) and Concentrates (LOQ 0.6%) by HPLC and UHPLC

LAB-MTD-021: Determination of Cannabinoids of Individually Isolated Sample by HPLC/UHPLC

LAB-MTD-023: Determination of 11 Cannabinoids in Cannabis Tablets and Granules (LOQ 0.025%) by HPLC/UHPLC

LAB-MTD-030: Determination of 11 Cannabinoids in Cannabis Topicals (LOQ 0.005%) by HPLC/UHPLC

LAB-MTD-039: Determination of 5 Cannabinoids in Cannabis Edibles; Liquid Edibles (LOQ 0.0002%) and Solid Edibles (LOQ 0.005%) by UHPLC

Terpene Analysis

LAB-MTD-044: Determination of Terpene Content in Cannabis Dried Flower, Fresh Flower and Extract by GC-MS

Pesticide Analysis

LAB-MTD-010: Determination of Pesticide and Mycotoxins in Cannabis by LC-MS/MS and GC-MS/MS

LAB-MTD-040: Determination of EP Pesticide Residues in Cannabis Oil and Related Products by GC-MS/MS

LAB-MTD-041: Determination of EP Pesticide Residues in Cannabis Flower and Related Products by GC-MS/MS

LAB-MTD-046: Determination of Health Canada Pesticide Residues and Toxins in Cannabis Oil and Related Products by LC-MS/MS

Mycotoxin Analysis

LAB-MTD-010: Determination of Pesticide and Mycotoxins in Cannabis by LC-MS/MS and GC-MS/MS

LAB-MTD-029: Determination of Toxins in Tablet Samples by LC-MS/MS

LAB-MTD-037: Determination of Mycotoxins in Topical/Cream Samples by LC-MS/MS

Heavy Metal Analysis

LAB-MTD-050: Multi-Element Analysis of Cannabis Dried Flower, Fresh Flower, Extracts, Rolling Papers, and Related Products by ICP-MS

Residual Solvents Analysis

LAB-MTD-036: Determination of Residual Solvents in Cannabis Oil by GC-MS

LAB-MTD-028: Determination of Residual Solvents in Tablet Samples by GC-MS

LAB-MTD-034: Determination of Propane and Butane in Cannabis Oil by GC-MS

LAB-MTD-038: Determination of Toluene in Cannabis Isolate by GC-MS

Information is accurate unless otherwise stated. The results of this report are reflective only to material and product analyzed as received. This report shall not be reproduced, without written approval from High North Laboratories. Test Results are confidential unless explicitly waived otherwise.

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Details of Testing

Microbial Analysis

MIC-MTD-001: Microbial Analysis of Cannabis Flower and Oil by qPCR

MIC-MTD-006: Determination of Viruses in Cannabis via qPCR and ELISA

MIC-MTD-007: Microbial Analysis of Cannabis by Culture Techniques

MIC-MTD-009: Cannabis Gender Determination by qPCR

Moisture Analysis

LAB-MTD-017: Determination of Moisture Content in Cannabis Flower

LAB-MTD-031: Water Activity Meter Setup and Operation

Sample Appearance and Foreign Matter

LAB-MTD-022: Sample Appearance and Detection of Foreign Matter Content in Cannabis Samples

Total Ash Analysis

LAB-MTD-043: Total Ash by Muffle Furnace in Cannabis Products

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