HIGH NORTH ID:
00471341
Date: 2024-04-30
Certificate: 1714503205

High North Inc.
241 Hanlan Rd, Unit 7
Woodbridge, ON, L4L 3R7
1-416-864-6119
LIC-P4PNJMAC20-2022

Client: HASHTEK

Product: Control group
Lot: GG240423C
Matrix: Oil
Sub-matrix: Live Rosin
Sampled: 2024-04-23
Received: 2024-04-25

Certificate of Analysis

Cannabinoid Analysis	LOD (%)	LOQ (%)	wt%	mg/g
Total THC [(THCA x 0.877) + D9-THC]			70.9620	709.6198
Total CBD [(CBDA x 0.877) + CBD]			0.5703	5.7031
THCA-A	0.1	0.2	79.5896	795.8958
CBGA	0.1	0.2	6.6773	66.7729
CBCA	0.1	0.2	1.7260	17.2601
D9-THC	0.1	0.2	1.1619	11.6192
CBDA	0.1	0.2	0.6503	6.5030
THCVA	0.1	0.2	0.5547	5.5472
CBG	0.1	0.2	0.3842	3.8418
CBC	0.1	0.2	ND	ND
D8-THC	0.1	0.2	ND	ND
CBCVA	0.1	0.2	ND	ND
CBN	0.1	0.2	ND	ND
CBCV	0.1	0.2	ND	ND
THCV	0.1	0.2	ND	ND
CBD	0.1	0.2	ND	ND
CBDV	0.1	0.2	ND	ND
CBDVA	0.1	0.2	ND	ND
Total of all quantified cannabinoids:			90.7440	907.4400

Terpene Analysis	LOD (%)	LOQ (%)	wt%
Trans-Caryophyllene	0.0008	0.025	1.8860
Farnesene*	0.0055	0.050	1.2566
(R)-(+)-Limonene	0.0007	0.025	0.6883
Alpha-Humulene	0.0005	0.025	0.4984
Linalool	0.0007	0.025	0.4252
Beta-Myrcene	0.0005	0.025	0.3138
Alpha-Bisabolol	0.0008	0.025	0.1312
Caryophyllene oxide	0.0007	0.025	0.1214
Beta-Pinene	0.0008	0.025	0.0869
Alpha-Terpineol	0.0008	0.025	0.0748

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

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Terpene Analysis	LOD (%)	LOQ (%)	wt%
Alpha-Pinene	0.0007	0.025	0.0660
(R)-Endo-(+)-Fenchyl Alcohol	0.0010	0.025	0.0604
trans-Nerolidol	0.0006	0.025	0.0571
Sabinene Hydrate	0.0010	0.025	BLQ
Camphene	0.0017	0.025	BLQ
Eucalyptol	0.0006	0.025	BLQ
Terpinolene	0.0008	0.025	BLQ
Borneol	0.0007	0.025	BLQ
Fenchone	0.0008	0.025	BLQ
Squalene	0.0029	0.050	ND
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
Guaiol	0.0005	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
Gamma-Terpinene	0.0007	0.025	ND
Cymene*	0.0006	0.025	ND

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Terpene Analysis	LOD (%)	LOQ (%)	wt%
Ocimene	0.0005	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:			5.666

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Details of Testing

Cannabinoid Analysis

LAB-MTD-020: Determination of 16 Cannabinoids in Cannabis Flowers, Extracts, Topicals, Tablets and Isolates by HPLC
LAB-MTD-039: Determination of 11 Cannabinoids in Cannabis Edibles by HPLC
LAB-MTD-051: Assay of Cannabinoids in Cannabis Flower as per DAB by HPLC
LAB-MTD-052: Identification of CBD and THCA as per DAB by Thin-Layer Chromatography
LAB-MTD-059: Determination of 6 Cannabinoids in Cannabis Flower, Extract and Edibles by HPLC

Terpene Analysis

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

Pesticide Analysis

LAB-MTD-010: Determination of Health Canada Pesticide Residues and Toxins in Dried Cannabis Flower by LC-MS/MS and GC-MS/MS
LAB-MTD-040: Determination of EP 2.8.13 Pesticide Residues in Cannabis Extracts by GC-MS/MS
LAB-MTD-041: Determination of EP 2.8.13/USP 561 Pesticide Residues in Cannabis Flower by GC-MS/MS and LC-MS/MS
LAB-MTD-046: Determination of Health Canada Pesticides and Toxins in Cannabis Extracts by LC-MS/MS
LAB-MTD-048: Determination of Health Canada Pesticide Residues and Toxins in Fresh Cannabis Flower by LC-MS/MS and GC-MS/MS
LAB-MTD-055: Determination of Israel Pesticide Residues in Dried/Fresh Cannabis by LC-MS/MS and GC-MS/MS

Mycotoxin Analysis

LAB-MTD-010: Determination of Health Canada Pesticide Residues and Toxins in Dried Cannabis Flower 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
LAB-MTD-046: Determination of Health Canada Pesticides and Toxins in Cannabis Extracts by LC-MS/MS
LAB-MTD-048: Determination of Health Canada Pesticide Residues and Toxins in Fresh Cannabis Flower by LC-MS/MS and GC-MS/MS

Flavonoid Analysis

LAB-MTD-045: Determination of Flavonoids in Cannabis Dried Flower, Fresh Flower, and Extracts by LC-MS/MS

Peroxide Value, p-Anisidine and Acidity (FFA) Analysis

LAB-MTD-049: Determination of Peroxide Value, p-Anisidine, and Acidity (FFA)

pH Analysis

MIC-MTD-013: Determination of pH using pH Meter

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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
MIC-MTD-010: Identification A and Identification B of Cannabis by DAB Monograph
MIC-MTD-011: Analysis of Shigella Species in Cannabis and Cannabis Infused Products
MIC-MTD-008: Analysis of Listeria Monocytogenes in Cannabis and Cannabis Infused Products
MIC-MTD-012: Microbial Analysis of Cannabis and Cannabis Infused Products by TEMPO

Moisture Analysis

LAB-MTD-017: Determination of Moisture Content in Cannabis Flower
LAB-MTD-031: Water Activity Meter Setup and Operation
LAB-MTD-053: Determination of Moisture Content by Loss on Drying Technique using Vacuum Oven
LAB-MTD-056: Determination of Moisture Content by Karl Fischer Titration

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

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
LAB-MTD-054: Determination of Acetic Acid in Flavour, Cannabis Vape Mix Oil and Cannabis Infused Flower by GC-MS

Heavy Metal Analysis

LAB-MTD-027: Determination of Heavy Metals in Cannabis Samples (Cream/Topicals, Tablets and Edibles) by ICP-MS
LAB-MTD-050: Multi-Element Analysis of Cannabis Dried Flower, Fresh Flower, Extracts, and Rolling Papers by ICP-MS
LAB-MTD-058: Determination of Palladium (Pd) in Cannabis Dried Flower, Fresh Flower and Extracts by ICP-MS

Average Weight and Disintegration Testing

USP <701> Disintegration
USP <2040> Disintegration and Dissolution of Dietary Supplements
LAB-SOP-037: Balance Usage and Daily Check

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