

HHC Vape Cartridge - Northern Lights - 1 ml

Sample ID: SA-230823-26219
 Batch: 21AUG2023-HHCNL
 Type: Finished Product - Inhalable
 Matrix: Concentrate - Distillate
 Unit Mass (g):

Collected: 08/21/2023
 Received: 08/28/2023
 Completed: 09/07/2023

Client
 3Chi
 275 Medical Dr #857
 Carmel, IN 46082
 USA
 Lic. #: 18_0235



Summary

Test	Date Tested	Status
Cannabinoids	09/07/2023	Tested
Heavy Metals	09/01/2023	Tested
Microbials	08/31/2023	Tested
Mycotoxins	09/05/2023	Tested
Pesticides	09/05/2023	Tested
Residual Solvents	09/01/2023	Tested
Terpenes	09/01/2023	Tested

ND Total Δ9-THC	67.8 % (6aR,9R,10aR)-HHC	94.2 % Total Cannabinoids	Not Tested Moisture Content	Not Tested Foreign Matter	Yes Internal Standard Normalization
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Cannabinoids by HPLC-PDA, LC-MS/MS, and/or GC-MS/MS

Analyte	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)
CBC	0.0095	0.0284	ND	ND
CBCA	0.0181	0.0543	ND	ND
CBCV	0.006	0.018	ND	ND
CBD	0.0081	0.0242	ND	ND
CBDA	0.0043	0.013	ND	ND
CBDV	0.0061	0.0182	ND	ND
CBDVA	0.0021	0.0063	ND	ND
CBG	0.0057	0.0172	ND	ND
CBGA	0.0049	0.0147	ND	ND
CBL	0.0112	0.0335	ND	ND
CBLA	0.0124	0.0371	ND	ND
CBN	0.0056	0.0169	ND	ND
CBNA	0.006	0.0181	ND	ND
CBT	0.018	0.054	0.344	3.44
Δ8-THC	0.0104	0.0312	ND	ND
Δ9-THC	0.0076	0.0227	ND	ND
Δ9-THCA	0.0084	0.0251	ND	ND
Δ9-THCV	0.0069	0.0206	ND	ND
Δ9-THCVA	0.0062	0.0186	ND	ND
(6aR,9R,10aR)-HHC	0.0067	0.02	67.8	678
(6aR,9S,10aR)-HHC	0.0067	0.02	26.0	260
Total Δ9-THC			ND	ND
Total			94.2	942

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; RL = Reporting Limit; Δ = Delta; Total Δ9-THC = Δ9-THCA * 0.877 + Δ9-THC; Total CBD = CBDA * 0.877 + CBD;



Generated By: Ryan Bellone
 CCO
 Date: 09/07/2023



Tested By: Scott Caudill
 Laboratory Manager
 Date: 09/07/2023



ISO/IEC 17025:2017 Accredited
 Accreditation #108651



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Terpenes by GC-MS

Analyte	LOD (%)	LOQ (%)	Result (%)	Analyte	LOD (%)	LOQ (%)	Result (%)
α-Bisabolol	0.002	0.01	ND	Limonene	0.002	0.01	0.136
(+)-Borneol	0.002	0.01	<LOQ	Linalool	0.002	0.01	0.0504
Camphene	0.002	0.01	<LOQ	β-myrcene	0.002	0.01	0.111
Camphor	0.004	0.02	ND	Nerol	0.002	0.01	ND
3-Carene	0.002	0.01	<LOQ	cis-Nerolidol	0.002	0.01	ND
β-Caryophyllene	0.002	0.01	0.768	trans-Nerolidol	0.002	0.01	0.0175
Caryophyllene Oxide	0.002	0.01	ND	Ocimene	0.002	0.01	0.0568
α-Cedrene	0.002	0.01	ND	α-Phellandrene	0.002	0.01	0.0616
Cedrol	0.002	0.01	ND	α-Pinene	0.002	0.01	0.0483
Eucalyptol	0.002	0.01	<LOQ	β-Pinene	0.002	0.01	0.0328
Fenchone	0.004	0.02	ND	Pulegone	0.002	0.01	ND
Fenchyl Alcohol	0.002	0.01	<LOQ	Sabinene	0.002	0.01	ND
Geraniol	0.002	0.01	ND	Sabinene Hydrate	0.002	0.01	ND
Geranyl Acetate	0.002	0.01	ND	α-Terpinene	0.002	0.01	<LOQ
Guaiol	0.002	0.01	ND	γ-Terpinene	0.002	0.01	<LOQ
Hexahydrothymol	0.002	0.01	ND	α-Terpineol	0.001	0.005	0.00771
α-Humulene	0.002	0.01	0.318	γ-Terpineol	0.001	0.005	ND
Isoborneol	0.002	0.01	ND	Terpinolene	0.002	0.01	0.134
Isopulegol	0.002	0.01	ND	Valencene	0.002	0.01	ND
				Total Terpenes (%)			1.78

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; P = Pass; F = Fail; RL = Reporting Limit



Pepper



Hops



Clove



Earth



Woody

Generated By: Ryan Bellone
 CCO
 Date: 09/07/2023

Tested By: Jasper van Heemst
 Principal Scientist
 Date: 09/01/2023



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Heavy Metals by ICP-MS

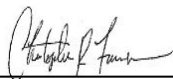
Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)
Arsenic	2	20	ND
Cadmium	1	20	ND
Lead	2	20	ND
Mercury	12	50	ND

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Generated By: Ryan Bellone
CCO

Date: 09/07/2023



Tested By: Chris Farman
Scientist

Date: 09/01/2023



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Pesticides by LC-MS/MS

Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)	Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)
Acephate	30	100	ND	Hexythiazox	30	100	ND
Acetamiprid	30	100	ND	Imazalil	30	100	ND
Aldicarb	30	100	ND	Imidacloprid	30	100	ND
Azoxystrobin	30	100	ND	Kresoxim methyl	30	100	ND
Bifenazate	30	100	ND	Malathion	30	100	ND
Bifenthrin	30	100	ND	Metalaxyl	30	100	ND
Boscalid	30	100	ND	Methiocarb	30	100	ND
Carbaryl	30	100	ND	Methomyl	30	100	ND
Carbofuran	30	100	ND	Mevinphos	30	100	ND
Chloranthraniliprole	30	100	ND	Myclobutanil	30	100	ND
Chlorfenapyr	30	100	ND	Naled	30	100	ND
Chlorpyrifos	30	100	ND	Oxamyl	30	100	ND
Clofentezine	30	100	ND	Paclobutrazol	30	100	ND
Coumaphos	30	100	ND	Permethrin	30	100	ND
Daminozide	30	100	ND	Phosmet	30	100	ND
Diazinon	30	100	ND	Piperonyl Butoxide	30	100	ND
Dichlorvos	30	100	ND	Prallethrin	30	100	ND
Dimethoate	30	100	ND	Propiconazole	30	100	ND
Dimethomorph	30	100	ND	Propoxur	30	100	ND
Ethoprophos	30	100	ND	Pyrethrins	30	100	ND
Etofenprox	30	100	ND	Pyridaben	30	100	ND
Etoxazole	30	100	ND	Spinetoram	30	100	ND
Fenhexamid	30	100	ND	Spinosad	30	100	ND
Fenoxycarb	30	100	ND	Spiromesifen	30	100	ND
Fenpyroximate	30	100	ND	Spirotetramat	30	100	ND
Fipronil	30	100	ND	Spiroxamine	30	100	ND
Flonicamid	30	100	ND	Tebuconazole	30	100	ND
Fludioxonil	30	100	ND	Thiacloprid	30	100	ND
				Thiamethoxam	30	100	ND
				Trifloxystrobin	30	100	ND

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Generated By: Ryan Bellone
 CCO
 Date: 09/07/2023



Tested By: Jasper van Heemst
 Principal Scientist
 Date: 09/05/2023



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Mycotoxins by LC-MS/MS

Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)
B1	1	5	ND
B2	1	5	ND
G1	1	5	ND
G2	1	5	ND
Ochratoxin A	1	5	ND

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; P = Pass; F = Fail; RL = Reporting Limit



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Tested By: Jasper van Heemst
 Principal Scientist
 Date: 09/05/2023



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Microbials by PCR and Plating

Analyte	LOD (CFU/g)	Result (CFU/g)	Result (Qualitative)
Total aerobic count	1	ND	
Total coliforms	1	ND	
Generic E. coli	1	ND	
Salmonella spp.	1		Not Detected per 1 gram
Shiga-toxin producing E. coli (STEC)	1		Not Detected per 1 gram

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; CFU = Colony Forming Units; P = Pass; F = Fail; RL = Reporting Limit



Generated By: Ryan Bellone
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 Date: 09/07/2023



Tested By: Matt Zachman
 Laboratory Technician
 Date: 08/31/2023



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Residual Solvents by HS-GC-MS

Analyte	LOD (ppm)	LOQ (ppm)	Result (ppm)	Analyte	LOD (ppm)	LOQ (ppm)	Result (ppm)
Acetone	167	500	ND	Ethylene Glycol	21	62	ND
Acetonitrile	14	41	ND	Ethylene Oxide	0.5	1	ND
Benzene	0.5	1	ND	Heptane	167	500	ND
Butane	167	500	ND	n-Hexane	10	29	ND
1-Butanol	167	500	ND	Isobutane	167	500	ND
2-Butanol	167	500	ND	Isopropyl Acetate	167	500	ND
2-Butanone	167	500	ND	Isopropyl Alcohol	167	500	ND
Chloroform	2	6	ND	Isopropylbenzene	167	500	ND
Cyclohexane	129	388	ND	Methanol	100	300	ND
1,2-Dichloroethane	0.5	1	ND	2-Methylbutane	10	29	ND
1,2-Dimethoxyethane	4	10	ND	Methylene Chloride	20	60	ND
Dimethyl Sulfoxide	167	500	ND	2-Methylpentane	10	29	ND
N,N-Dimethylacetamide	37	109	ND	3-Methylpentane	10	29	ND
2,2-Dimethylbutane	10	29	ND	n-Pentane	167	500	ND
2,3-Dimethylbutane	10	29	ND	1-Pentanol	167	500	ND
N,N-Dimethylformamide	30	88	ND	n-Propane	167	500	ND
2,2-Dimethylpropane	167	500	ND	1-Propanol	167	500	ND
1,4-Dioxane	13	38	ND	Pyridine	7	20	ND
Ethanol	167	500	ND	Tetrahydrofuran	24	72	ND
2-Ethoxyethanol	6	16	ND	Toluene	30	89	ND
Ethyl Acetate	167	500	ND	Trichloroethylene	3	8	ND
Ethyl Ether	167	500	ND	Tetramethylene Sulfone	6	16	ND
Ethylbenzene	3	7	ND	Xylenes (o-, m-, and p-)	73	217	ND

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 Date: 09/07/2023



Tested By: Scott Caudill
 Laboratory Manager
 Date: 09/01/2023



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Reporting Limit Appendix

Heavy Metals - Colorado CDPHE

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Arsenic	1500	Lead	500
Cadmium	500	Mercury	1500

Microbials -

Analyte	Limit (CFU/g)	Analyte	Limit (CFU/g)
Total coliforms	100	Total aerobic count	100000

Residual Solvents - USP 467

Analyte	Limit (ppm)	Analyte	Limit (ppm)
Acetone	5000	Ethylene Glycol	620
Acetonitrile	410	Ethylene Oxide	1
Benzene	2	Heptane	5000
Butane	5000	n-Hexane	290
1-Butanol	5000	Isobutane	5000
2-Butanol	5000	Isopropyl Acetate	5000
2-Butanone	5000	Isopropyl Alcohol	5000
Chloroform	60	Isopropylbenzene	5000
Cyclohexane	3880	Methanol	3000
1,2-Dichloroethane	5	2-Methylbutane	290
1,2-Dimethoxyethane	100	Methylene Chloride	600
Dimethyl Sulfoxide	5000	2-Methylpentane	290
N,N-Dimethylacetamide	1090	3-Methylpentane	290
2,2-Dimethylbutane	290	n-Pentane	5000
2,3-Dimethylbutane	290	1-Pentanol	5000
N,N-Dimethylformamide	880	n-Propane	5000
2,2-Dimethylpropane	5000	1-Propanol	5000
1,4-Dioxane	380	Pyridine	200
Ethanol	5000	Tetrahydrofuran	720
2-Ethoxyethanol	160	Toluene	890
Ethyl Acetate	5000	Trichloroethylene	80
Ethyl Ether	5000	Tetramethylene Sulfone	160
Ethylbenzene	70	Xylenes (o-, m-, and p-)	2170

Pesticides - CA DCC

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Aldicarb	30	Imidacloprid	3000
Azoxystrobin	40000	Kresoxim methyl	1000
Bifenazate	5000	Malathion	5000
Bifenthrin	500	Metalaxyl	15000
Boscalid	10000	Methiocarb	30
Carbaryl	500	Methomyl	100
Carbofuran	30	Mevinphos	30
Chloranthraniliprole	40000	Myclobutanil	9000
Chlorfenapyr	30	Naled	500
Chlorpyrifos	30	Oxamyl	200
Clofentezine	500	Pacllobutrazol	30
Coumaphos	30	Permethrin	20000
Daminozide	30	Phosmet	200
Diazinon	200	Piperonyl Butoxide	8000
Dichlorvos	30	Prallethrin	400
Dimethoate	30	Propiconazole	20000
Dimethomorph	20000	Propoxur	30
Ethoprophos	30	Pyrethrins	1000
Etofenprox	30	Pyridaben	3000
Etoxazole	1500	Spinetoram	3000
Fenhexamid	10000	Spinosad	3000
Fenoxycarb	30	Spiromesifen	12000
Fenpyroximate	2000	Spirotetramat	13000
Fipronil	30	Spiroxamine	30
Fonicamid	2000	Tebuconazole	2000
Fludioxonil	30000	Thiacloprid	30

Mycotoxins - Colorado CDPHE

Analyte	Limit (ppm)	Analyte	Limit (ppm)
B1	5	B2	5
G1	5	G2	5
Ochratoxin A	5		

Pesticides - CA DCC

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Acephate	5000	Hexythiazox	2000
Acetamiprid	5000	Imazalil	30

