

## HHC Vape Cartridge - Northern Lights - 1 ml

Sample ID: SA-230412-20313  
 Batch: 10APR2023-HHCNL  
 Type: Finished Products  
 Matrix: Concentrate - Distillate  
 Unit Mass (g):

Collected: 04/10/2023  
 Received: 04/19/2023  
 Completed: 05/08/2023

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



### Summary

Test	Date Tested	Status
Cannabinoids	04/27/2023	Tested
Heavy Metals	04/20/2023	Tested
Microbials	04/25/2023	Tested
Mycotoxins	04/24/2023	Tested
Pesticides	04/24/2023	Tested
Residual Solvents	05/08/2023	Tested
Terpenes	05/01/2023	Tested

<b>0.141 %</b> Total Δ9-THC	<b>56.0 %</b> (6aR,9S,10aR)-HHC	<b>95.6 %</b> Total Cannabinoids	<b>Not Tested</b> Moisture Content	<b>Not Tested</b> Foreign Matter	<b>Yes</b> 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
CBCV	0.006	0.018	ND	ND
CBD	0.0081	0.0242	ND	ND
CBDV	0.0061	0.0182	ND	ND
CBG	0.0057	0.0172	ND	ND
CBL	0.0112	0.0335	ND	ND
CBN	0.0056	0.0169	ND	ND
CBT	0.018	0.054	ND	ND
Δ8-THC	0.0104	0.0312	3.38	33.8
Δ9-THC	0.0076	0.0227	0.141	1.41
Δ9-THCV	0.0069	0.0206	ND	ND
(6aR,9R,10aR)-HHC	0.0067	0.02	36.1	361
(6aR,9S,10aR)-HHC	0.0067	0.02	56.0	560
<b>Total Δ9-THC</b>			<b>0.141</b>	<b>1.41</b>
<b>Total</b>			<b>95.6</b>	<b>956</b>

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: 05/08/2023



Tested By: Scott Caudill  
 Senior Scientist  
 Date: 04/27/2023



ISO/IEC 17025:2017 Accredited  
 Accreditation #108651



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### Terpenes by GC-MS

Analyte	LOD (%)	LOQ (%)	Result (%)	Analyte	LOD (%)	LOQ (%)	Result (%)
$\alpha$ -Bisabolol	0.002	0.01	ND	Limonene	0.002	0.01	0.09519
(+)-Borneol	0.002	0.01	<LOQ	Linalool	0.002	0.01	0.05912
Camphene	0.002	0.01	<LOQ	$\beta$ -myrcene	0.002	0.01	0.08661
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
$\beta$ -Caryophyllene	0.002	0.01	0.86924	trans-Nerolidol	0.002	0.01	0.02233
Caryophyllene Oxide	0.002	0.01	ND	Ocimene	0.002	0.01	0.06732
$\alpha$ -Cedrene	0.002	0.01	ND	$\alpha$ -Phellandrene	0.002	0.01	0.04018
Cedrol	0.002	0.01	ND	$\alpha$ -Pinene	0.002	0.01	0.03842
Eucalyptol	0.002	0.01	<LOQ	$\beta$ -Pinene	0.002	0.01	0.0245
Fenchone	0.004	0.02	ND	Pulegone	0.002	0.01	ND
Fenchyl Alcohol	0.002	0.01	0.01301	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	$\alpha$ -Terpinene	0.002	0.01	<LOQ
Guaiol	0.002	0.01	ND	$\gamma$ -Terpinene	0.002	0.01	<LOQ
Hexadhydrothymol	0.002	0.01	ND	$\alpha$ -Terpineol	0.001	0.005	0.00837
$\alpha$ -Humulene	0.002	0.01	0.33302	$\gamma$ -Terpineol	0.001	0.005	ND
Isoborneol	0.002	0.01	ND	Terpinolene	0.002	0.01	0.15518
Isopulegol	0.002	0.01	ND	Valencene	0.002	0.01	ND
				<b>Total Terpenes (%)</b>			<b>1.85</b>

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: 05/08/2023

Tested By: Jasper van Heemst  
 Principal Scientist

Date: 05/01/2023



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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

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



Generated By: Ryan Bellone  
 CCO

Date: 05/08/2023



Tested By: Kelsey Rogers  
 Scientist

Date: 04/20/2023



## HHC Vape Cartridge - Northern Lights - 1 ml

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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
Azoxystrobin	30	100	ND	Imidacloprid	30	100	ND
Bifenazate	30	100	ND	Kresoxim methyl	30	100	ND
Bifenthrin	30	100	ND	Malathion	30	100	ND
Boscalid	30	100	ND	Metalaxyl	30	100	ND
Carbaryl	30	100	ND	Methiocarb	30	100	ND
Carbofuran	30	100	ND	Methomyl	30	100	ND
Chloranthraniliprole	30	100	ND	Mevinphos	30	100	ND
Chlorfenapyr	30	100	ND	Myclobutanil	30	100	ND
Chlorpyrifos	30	100	ND	Naled	30	100	ND
Clofentezine	30	100	ND	Oxamyl	30	100	ND
Coumaphos	30	100	ND	Paclobutrazol	30	100	ND
Daminozide	30	100	ND	Permethrin	30	100	ND
Diazinon	30	100	ND	Phosmet	30	100	ND
Dichlorvos	30	100	ND	Piperonyl Butoxide	30	100	ND
Dimethoate	30	100	ND	Prallethrin	30	100	ND
Dimethomorph	30	100	ND	Propiconazole	30	100	ND
Ethoprophos	30	100	ND	Propoxur	30	100	ND
Etofenprox	30	100	ND	Pyrethrins	30	100	ND
Etoxazole	30	100	ND	Pyridaben	30	100	ND
Fenhexamid	30	100	ND	Spinetoram	30	100	ND
Fenoxycarb	30	100	ND	Spinosad	30	100	ND
Fenpyroximate	30	100	ND	Spiromesifen	30	100	ND
Fipronil	30	100	ND	Spirotetramat	30	100	ND
Flonicamid	30	100	ND	Spiroxamine	30	100	ND
Fludioxonil	30	100	ND	Tebuconazole	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: 05/08/2023



Tested By: Jasper van Heemst  
 Principal Scientist  
 Date: 04/24/2023



## HHC Vape Cartridge - Northern Lights - 1 ml

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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



Generated By: Ryan Bellone  
 CCO  
 Date: 05/08/2023



Tested By: Jasper van Heemst  
 Principal Scientist  
 Date: 04/24/2023



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## Microbials by PCR and Plating

Analyte	LOD (CFU/g)	Result (CFU/g)
Total aerobic count	1	ND
Total coliforms	1	ND
Generic E. coli	1	ND
Salmonella spp.	1	ND
Shiga-toxin producing E. coli (STEC)	1	ND

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  
 CCO

Date: 05/08/2023



Tested By: Lucy Jones  
 Scientist

Date: 04/25/2023





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

### 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

