



Utah Department of Agriculture and Food
Division of Laboratory Services
 4451 South 2700 West
 Taylorsville, Utah 84129
 (801) 816-3840

CERTIFICATE OF ANALYSIS

Sample Information

| | | | |
|--------------------------|----------------------------|-----------------------|------------------------------|
| UDAF Lab # | HP24121-1 | Issue Date: | 05/03/2024 |
| Client: | The Wasatch Apothecary LLC | Client Email: | skyler@wasatchapothecary.com |
| Producer: | The Wasatch Apothecary LLC | Sample Type: | Gelatinous Cubes |
| Description: | Nothorn Lights Chill Chews | | |
| Batch/Lot Number: | CC0001 | Date Received: | 04/30/2024 |
| Date Collected: | | Collected By: | Self-Submitted |




Notes:

Testing Summary

Status: PASS

| Analysis: | Testing Date: | Status: | Notes: |
|-------------------|--|---------|--------|
| Cannabinoids | 05/02/2024 | PASS | |
| Foreign Matter | 04/30/2024 | PASS | |
| Microbials | Plating: 04/30/2024 PCR: 05/01/2024 | PASS | |
| Pesticides | 05/03/2024 | PASS | |
| Heavy Metals | 05/02/2024 | PASS | |
| Residual Solvents | 05/03/2024 | PASS | |
| Mycotoxins | 05/03/2024 | PASS | |
| | | | |
| | | | |

Approved By:  Date: 05/03/2024
 Brandon Forsyth, Ph.D
 State Chemist

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CERTIFICATE OF ANALYSIS

Cannabinoid Analysis

Status: PASS

| | | | |
|----------------------|------------|---------------------|----------------------------|
| Sample ID: | HP24121-1 | Description: | Nothern Lights Chill Chews |
| Testing Date: | 05/02/2024 | Reviewed By: | Cameron Cheyne |

Method: ACL.AM.003 Analysis performed using High-Performance Liquid Chromatography (HPLC-DAD)

| Analyte | Abbreviation | CAS Number | % (w/w) | mg/g |
|--|------------------|-------------------------|---------|-------|
| Δ9-Tetrahydrocannabinidiol | Δ9-THC | 1972-08-03 | 0.14% | 1.4 |
| Δ8-Tetrahydrocannabinidiol | Δ8-THC | 5957-75-5 | ND | ND |
| Δ9-Tetrahydrocannabinolic acid | THCA | 23978-85-0 | ND | ND |
| Δ9-Tetrahydrocannabivarin | THCV | 31262-37-0 | ND | ND |
| Cannabidiol | CBD | 13956-29-1 | 0.73% | 7.3 |
| Cannabidiolic acid | CBDA | 1244-58-2 | ND | ND |
| Cannabidivarin | CBDV | 24274-48-4 | ND | ND |
| Cannabinol | CBN | 521-35-7 | 0.52% | 5.2 |
| Cannabigerol | CBG | 25654-31-3 | 0.30% | 3 |
| Cannabichromene | CBC | 20675-51-8 | 0.12% | 1.2 |
| Cannabigerolic acid | CBGA | 25555-57-1 | ND | ND |
| Cannabichromenic acid | CBCA | 20408-52-0 | ND | ND |
| Cannabicitran | CBTC | 31508-71-1 | ND | ND |
| 9(R+S)-Δ6a,10a-Tetrahydrocannabinidiol | Δ3-THC | 95720-01-07, 95720-02-8 | ND | ND |
| (6aR,9R)-Δ10-Tetrahydrocannabinidiol | (6aR,9R)-Δ10-THC | 95543-62-7 | ND | ND |
| (6aR,9S)-Δ10-Tetrahydrocannabinidiol | (6aR,9S)-Δ10-THC | 95588-87-7 | ND | ND |
| Total Cannabinoids | | | 1.81% | 18.10 |
| Total THC | | | 0.14% | 1.4 |
| Total CBD | | | 0.73% | 7.30 |
| Total THC Analogs | | | 0.14% | 1.4 |

Unknown Cannabinoid Peak Area: 0.0%

Mass Per Piece: 4.76 g

Status: PASS

Notes:

Total Cannabinoids is calculated as the direct sum of each of the cannabinoid values.
 Total THC is calculated as Δ9-THC + (THCA x 0.877) | Total CBD is calculated as CBD + (CBDA x 0.877).
 Total THC Analogs is calculated as Δ9-THC + (THCA x 0.877) + Δ8-THC + CBTC.
 ND = Not Detected, NQ = Not Quantifiable, NT = Not Tested, <LOQ = Below the limit of quantification

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CERTIFICATE OF ANALYSIS

Foreign Matter Analysis

Status: PASS

| | |
|---------------------------------|--|
| Sample ID: HP24121-1 | Description: Nothern Lights Chill Chews |
| Testing Date: 04/30/2024 | Reviewed By: Brooke Smith |

Method: Analysis performed by visual inspection aided by magnification

| Analyte | Foreign Matter Found | Status |
|----------------|----------------------|--------|
| Foreign Matter | | PASS |

Notes:

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CERTIFICATE OF ANALYSIS

Microbial Analysis

Status: PASS

| | | | |
|----------------------|--|---------------------|----------------------------|
| Sample ID: | HP24121-1 | Description: | Nothern Lights Chill Chews |
| Testing Date: | Plating: 04/30/2024 PCR: 05/01/2024 | Reviewed By: | Brooke Smith |

Method: Analysis performed using plating methods

| Analyte | Result (cfu/g) | Allowed Limit | Status |
|---------|----------------|---------------|--------|
| TAC | <250 | 10,000 | PASS |
| TYM | <250 | 1,000 | PASS |

Method: Analysis performed using Polymerase Chain Reaction (PCR)

| Organism | Result | Required | Status |
|-------------|--------|-------------------------------------|--------|
| E. Coli | ND | <input checked="" type="checkbox"/> | PASS |
| Salmonella | ND | <input checked="" type="checkbox"/> | PASS |
| STEC | NT | <input type="checkbox"/> | -- |
| Pseudomonas | NT | <input type="checkbox"/> | -- |
| Aspergillus | NT | <input type="checkbox"/> | -- |
| Staph | ND | <input checked="" type="checkbox"/> | PASS |

Notes:

TNTC = To Numerous To Count, NT = Not Tested, ND = Not Detected, DET = Detected

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CERTIFICATE OF ANALYSIS

Pesticide Analysis

Status: PASS

| | | | |
|----------------------|------------|---------------------|----------------------------|
| Sample ID: | HP24121-1 | Description: | Nothern Lights Chill Chews |
| Testing Date: | 05/03/2024 | Reviewed By: | Cameron Cheyne |

Method: ACL.AM.008 Analysis performed using Liquid Chromatography - Mass Spectrometry (LC-MS/MS)

| Analyte | CAS Number | Result (ppm) | Action Level (ppm) | Status | Analyte | CAS Number | Result (ppm) | Action Level (ppm) | Status |
|---------------------|-------------|--------------|--------------------|--------|--------------------|-------------|--------------|--------------------|--------|
| Abamectin | 71751-41-2 | ND | 0.5 | PASS | Imazilil | 35554-44-0 | ND | 0.2 | PASS |
| Acephate | 30560-19-1 | ND | 0.4 | PASS | Imidacloprid | 138261-41-3 | ND | 0.4 | PASS |
| Acequinocyl | 57960-19-7 | ND | 2 | PASS | Kresoxim-methyl | 143390-89-0 | ND | 0.4 | PASS |
| Acetamiprid | 135410-20-7 | ND | 0.2 | PASS | Malathion | 121-75-5 | ND | 0.2 | PASS |
| Aldicarb | 0116-06-03 | ND | 0.4 | PASS | Metalaxyl | 57837-19-1 | ND | 0.2 | PASS |
| Azoxystrobin | 131860-33-8 | ND | 0.2 | PASS | Methiocarb | 2032-65-7 | ND | 0.2 | PASS |
| Bifenazate | 149877-41-8 | ND | 0.2 | PASS | Methomyl | 16752-77-5 | ND | 0.4 | PASS |
| Bifenthrin | 82657-04-03 | ND | 0.2 | PASS | Methyl parathion | 298-00-0 | ND | 0.2 | PASS |
| Boscalid | 188425-85-6 | ND | 0.4 | PASS | MGK-264 | 113-48-4 | ND | 0.2 | PASS |
| Carbaryl | 63-25-2 | ND | 0.2 | PASS | Myclobutanil | 88671-89-0 | ND | 0.2 | PASS |
| Carbofuran | 1563-66-2 | ND | 0.2 | PASS | Naled | 300-76-5 | ND | 0.5 | PASS |
| Chlorantraniliprole | 500008-45-7 | ND | 0.2 | PASS | Oxamyl | 23135-22-0 | ND | 1 | PASS |
| Chlorfenapyr | 122453-73-0 | ND | 1 | PASS | Paclobutrazol | 76738-62-0 | ND | 0.4 | PASS |
| Chlorpyrifos | 2921-88-2 | ND | 0.2 | PASS | Permethrins | 52645-53-1 | ND | 0.2 | PASS |
| Clofentezine | 74115-24-5 | ND | 0.2 | PASS | Phosmet | 0732-11-6 | ND | 0.2 | PASS |
| Cyfluthrin | 68359-37-5 | ND | 1 | PASS | Piperonyl Butoxide | 51-03-6 | ND | 2 | PASS |
| Cypermethrin | 52315-07-08 | ND | 1 | PASS | Prallethrin | 23031-36-9 | ND | 0.2 | PASS |
| Daminozide | 1596-84-5 | ND | 1 | PASS | Propiconazole | 60207-90-1 | ND | 0.4 | PASS |
| Dichlorvos | 62-73-7 | ND | 0.1 | PASS | Propoxur | 114-26-1 | ND | 0.2 | PASS |
| Diazinon | 333-41-5 | ND | 0.2 | PASS | Pyrethrins | 8003-34-7 | ND | 1 | PASS |
| Dimethoate | 60-51-5 | ND | 0.2 | PASS | Pyridaben | 96489-71-3 | ND | 0.2 | PASS |
| Ethoprophos | 13194-48-4 | ND | 0.2 | PASS | Spinosad | 168316-95-8 | ND | 0.2 | PASS |
| Etofenprox | 80844-07-01 | ND | 0.4 | PASS | Spiromesifen | 283594-90-1 | ND | 0.2 | PASS |
| Etoxazole | 153233-91-1 | ND | 0.2 | PASS | Spirotetramat | 203313-25-1 | ND | 0.2 | PASS |
| Fenoxycarb | 72490-01-08 | ND | 0.2 | PASS | Spiroxamine | 118134-30-8 | ND | 0.4 | PASS |
| Fenpyroximate | 134098-61-6 | ND | 0.4 | PASS | Tebuconazole | 80443-41-0 | ND | 0.4 | PASS |
| Fipronil | 120068-37-3 | ND | 0.4 | PASS | Thiacloprid | 111988-49-9 | ND | 0.2 | PASS |
| Flonicamid | 158062-67-0 | ND | 1 | PASS | Thiamethoxam | 153719-23-4 | ND | 0.2 | PASS |
| Fludioxonil | 131341-86-1 | ND | 0.4 | PASS | Trifloxystrobin | 141517-21-7 | ND | 0.2 | PASS |
| Hexythiazox | 78587-05-0 | ND | 1 | PASS | | | | | |

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CERTIFICATE OF ANALYSIS

Heavy Metal Analysis

Status: PASS

| | |
|---------------------------------|--|
| Sample ID: HP24121-1 | Description: Nothern Lights Chill Chews |
| Testing Date: 05/02/2024 | Reviewed By: Cameron Cheyne |

Method: ACL.AM.004 Analysis performed using Inductively Coupled Plasma - Mass Spectrometry (ICP-MS)

| Analyte | CAS Number | Result (ppm) | Action Level (ppm) | Status |
|---------|------------|--------------|--------------------|--------|
| Arsenic | 7440-38-2 | ND | 2 | PASS |
| Cadmium | 7440-43-9 | ND | 0.82 | PASS |
| Lead | 7439-92-1 | ND | 1.2 | PASS |
| Mercury | 7439-97-6 | ND | 0.4 | PASS |

Notes:

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CERTIFICATE OF ANALYSIS

Residual Solvent Analysis

Status: PASS

| | | | |
|----------------------|------------|---------------------|----------------------------|
| Sample ID: | HP24121-1 | Description: | Nothern Lights Chill Chews |
| Testing Date: | 05/03/2024 | Reviewed By: | Cameron Cheyne |

Method: ACL.AM.007 Analysis performed using Gas Chromatography - Mass Spectrometry (GC-MS/FID)

| Analyte | CAS Number | Result (ppm) | Action Level (ppm) | Status | Analyte | CAS Number | Result (ppm) | Action Level (ppm) | Status |
|-----------------------|------------|--------------|--------------------|--------|-------------------|------------|--------------|--------------------|--------|
| Acetone | 67-64-1 | ND | 5000 | PASS | Ethyl Ether | 60-29-7 | ND | 5000 | PASS |
| Acetonitrile | 75-05-8 | ND | 410 | PASS | Ethylbenzene | 100-41-4 | ND | See Xylenes | -- |
| Benzene | 71-43-2 | ND | 2 | PASS | Ethylene Glycol | 107-21-1 | ND | 620 | PASS |
| Butane | 106-97-8 | ND | 5000 | PASS | Ethylene Oxide | 75-21-8 | ND | 50 | PASS |
| 1-Butanol | 71-36-3 | ND | 5000 | PASS | Heptane | 142-82-5 | ND | 5000 | PASS |
| 2-Butanol | 78-92-2 | ND | 5000 | PASS | n-Hexane | 110-54-3 | ND | 290 | PASS |
| 2-Butanone | 78-93-3 | ND | 5000 | PASS | Isopropyl Acetate | 108-21-4 | ND | 5000 | PASS |
| Cumene | 98-82-8 | ND | 70 | PASS | Methanol | 67-56-1 | ND | 3000 | PASS |
| Cyclohexane | 110-82-7 | ND | 3880 | PASS | 2-Methylbutane | 78-78-4 | ND | 5000 | PASS |
| Dichloromethane | 75-09-2 | ND | 600 | PASS | 2-Methylpentane | 107-83-5 | ND | 290 | PASS |
| 1,2-Dimethoxyethane | 110-71-4 | ND | 100 | PASS | 3-Methylpentane | 96-14-0 | ND | 290 | PASS |
| Dimethyl Sulfoxide | 67-68-5 | ND | 5000 | PASS | Methylpropane | 75-28-5 | ND | 5000 | PASS |
| N,N-Dimethylacetamide | 127-19-5 | ND | 1090 | PASS | Pentane | 109-66-0 | ND | 5000 | PASS |
| 1,2-Dimethylbenzene | 95-47-6 | ND | See Xylenes | -- | 1-Pentanol | 71-41-0 | ND | 5000 | PASS |
| 1,3-Dimethylbenzene | 108-38-3 | ND | See Xylenes | -- | Propane | 74-98-6 | ND | 5000 | PASS |
| 1,4-Dimethylbenzene | 106-42-3 | ND | See Xylenes | -- | 1-Propanol | 71-23-8 | ND | 5000 | PASS |
| 2,2-Dimethylbutane | 75-83-2 | ND | 290 | PASS | 2-Propanol | 67-63-0 | ND | 5000 | PASS |
| 2,3-Dimethylbutane | 79-29-8 | ND | 290 | PASS | Pyridine | 110-86-1 | ND | 100 | PASS |
| N,N-Dimethylformamide | 68-12-2 | ND | 880 | PASS | Sulfolane | 126-33-0 | ND | 160 | PASS |
| 1,4-Dioxane | 123-9 | ND | 380 | PASS | Tetrahydrofuran | 109-99-9 | ND | 720 | PASS |
| Ethanol | 64-17-5 | 35 | 5000 | PASS | Toluene | 108-88-3 | ND | 890 | PASS |
| 2-Ethoxyethanol | 110-80-5 | ND | 160 | PASS | Xylenes | 1330-20-7 | ND | 2170 | PASS |
| Ethyl Acetate | 141-78-6 | ND | 5000 | PASS | | | | | |

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CERTIFICATE OF ANALYSIS

Mycotoxin Analysis

Status: PASS

| | |
|---------------------------------|--|
| Sample ID: HP24121-1 | Description: Nothern Lights Chill Chews |
| Testing Date: 05/03/2024 | Reviewed By: Cameron Cheyne |

Method: ACL.AM.004 Analysis performed using Inductively Coupled Plasma - Mass Spectrometry (ICP-MS)

| Analyte | Result (ppb) | Action Level (ppb) | Status |
|-----------------|--------------|---------------------|--------|
| AflatoxinB1 | ND | See Total Aflatoxin | -- |
| AflatoxinB2 | ND | See Total Aflatoxin | -- |
| AflatoxinG1 | ND | See Total Aflatoxin | -- |
| AflatoxinG2 | ND | See Total Aflatoxin | -- |
| Total Aflatoxin | 0 | 20 | PASS |
| Ochratoxin A | ND | 20 | PASS |

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