



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

|                          |                            |                       |                              |
|--------------------------|----------------------------|-----------------------|------------------------------|
| <b>UDAF Lab #</b>        | HP24253-1                  | <b>Issue Date:</b>    | 09/16/2024                   |
| <b>Client:</b>           | The Wasatch Apothecary LLC | <b>Client Email:</b>  | skyler@wasatchapothecary.com |
| <b>Producer:</b>         | The Wasatch Apothecary LLC | <b>Sample Type:</b>   | Gelatinous Cubes             |
| <b>Description:</b>      | Mango Gummies              |                       |                              |
| <b>Batch/Lot Number:</b> | WA00010V                   | <b>Date Received:</b> | 09/09/2024                   |
| <b>Date Collected:</b>   |                            | <b>Collected By:</b>  | Self-Submitted               |



Notes:

### Testing Summary

| <b>Analysis:</b>  | <b>Testing Date:</b>                   | <b>Status:</b> | <b>Notes:</b> |
|-------------------|----------------------------------------|----------------|---------------|
| Cannabinoids      | 09/11/2024                             | --             |               |
| Foreign Matter    | 09/10/2024                             | PASS           |               |
| Microbials        | Plating: 09/11/2024<br>PCR: 09/10/2024 | PASS           |               |
| Pesticides        | 09/13/2024                             | PASS           |               |
| Heavy Metals      | 09/13/2024                             | PASS           |               |
| Residual Solvents | 09/13/2024                             | PASS           |               |
| Mycotoxins        | 09/13/2024                             | PASS           |               |
|                   |                                        |                |               |
|                   |                                        |                |               |

Approved By: \_\_\_\_\_

Brandon Forsyth, Ph.D.  
State Chemist

Date: 09/16/2024

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## CERTIFICATE OF ANALYSIS

**Cannabinoid Analysis**

**Status:** --

|                      |            |                     |                |
|----------------------|------------|---------------------|----------------|
| <b>Sample ID:</b>    | HP24253-1  | <b>Description:</b> | Mango Gummies  |
| <b>Testing Date:</b> | 09/11/2024 | <b>Reviewed By:</b> | 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              | 0.10%   | 1     |
| 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              | 1.00%   | 10    |
| Cannabidiolic acid                     | CBDA             | 1244-58-2               | ND      | ND    |
| Cannabidivarin                         | CBDV             | 24274-48-4              | ND      | ND    |
| Cannabinol                             | CBN              | 521-35-7                | 0.39%   | 3.9   |
| Cannabigerol                           | CBG              | 25654-31-3              | ND      | ND    |
| Cannabichromene                        | CBC              | 20675-51-8              | 0.08%   | 0.8   |
| 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    |
| <b>Total Cannabinoids</b>              |                  |                         | 1.58%   | 15.80 |
| Total THC                              |                  |                         | 0.10%   | 1.0   |
| Total CBD                              |                  |                         | 1.00%   | 10.00 |
| Total THC Analogs                      |                  |                         | 0.10%   | 1.0   |

**Unknown Cannabinoid Peak Area:** 0.0%

**Mass Per Piece:** 4.45 g

**Status:** --

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

|                                 |                                    |
|---------------------------------|------------------------------------|
| <b>Sample ID:</b> HP24253-1     | <b>Description:</b> Mango Gummies  |
| <b>Testing Date:</b> 09/10/2024 | <b>Reviewed By:</b> Wyatt Martinez |

*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

|                      |                                        |                     |                |
|----------------------|----------------------------------------|---------------------|----------------|
| <b>Sample ID:</b>    | HP24253-1                              | <b>Description:</b> | Mango Gummies  |
| <b>Testing Date:</b> | Plating: 09/11/2024<br>PCR: 09/10/2024 | <b>Reviewed By:</b> | Wyatt Martinez |

*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

|                      |            |                     |                |
|----------------------|------------|---------------------|----------------|
| <b>Sample ID:</b>    | HP24253-1  | <b>Description:</b> | Mango Gummies  |
| <b>Testing Date:</b> | 09/13/2024 | <b>Reviewed By:</b> | 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

|                                 |                                    |
|---------------------------------|------------------------------------|
| <b>Sample ID:</b> HP24253-1     | <b>Description:</b> Mango Gummies  |
| <b>Testing Date:</b> 09/13/2024 | <b>Reviewed By:</b> 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   |

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## CERTIFICATE OF ANALYSIS

**Residual Solvent Analysis**

**Status:** PASS

|                      |            |                     |                |
|----------------------|------------|---------------------|----------------|
| <b>Sample ID:</b>    | HP24253-1  | <b>Description:</b> | Mango Gummies  |
| <b>Testing Date:</b> | 09/13/2024 | <b>Reviewed By:</b> | 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    | 12           | 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    | ND           | 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

|                                 |                                    |
|---------------------------------|------------------------------------|
| <b>Sample ID:</b> HP24253-1     | <b>Description:</b> Mango Gummies  |
| <b>Testing Date:</b> 09/13/2024 | <b>Reviewed By:</b> 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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