

**SAMPLE NAME: cbdMD 30 count 1500 mg Gummies**

Infused, Hemp Infused

**CULTIVATOR / MANUFACTURER**

**Business Name:**

**License Number:**

**Address:**

**DISTRIBUTOR / TESTED FOR**

**Business Name: cbdMD**

**License Number:**

**Address:**



**SAMPLE DETAIL**

**Batch Number: F50G004**

**Sample ID: 210722R023**

**Date Collected: 07/22/2021**

**Date Received: 07/22/2021**

**Batch Size:**

**Sample Size: 1.0 units**

**Unit Mass: 116.718 grams per Unit**

**Serving Size:**



Scan QR code to verify authenticity of results.

**CANNABINOID ANALYSIS - SUMMARY**

**Total THC: Not Detected**

**Total CBD: 1630.084 mg/unit**

**Sum of Cannabinoids: 1659.847 mg/unit**

**Total Cannabinoids: 1659.846 mg/unit**

Total THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during the decarboxylation step:

Total THC =  $\Delta 9\text{THC} + (\text{THCa} \cdot 0.877)$

Total CBD =  $\text{CBD} + (\text{CBDa} \cdot 0.877)$

Sum of Cannabinoids =  $\Delta 9\text{THC} + \text{THCa} + \text{CBD} + \text{CBDa} + \text{CBG} + \text{CBGa} +$

$\text{THCV} + \text{THCVa} + \text{CBC} + \text{CBCa} + \text{CBDV} + \text{CBDVa} + \Delta 8\text{THC} + \text{CBL} + \text{CBN}$

Total Cannabinoids =  $(\Delta 9\text{THC} + 0.877 \cdot \text{THCa}) + (\text{CBD} + 0.877 \cdot \text{CBDa}) +$

$(\text{CBG} + 0.877 \cdot \text{CBGa}) + (\text{THCV} + 0.877 \cdot \text{THCVa}) + (\text{CBC} + 0.877 \cdot \text{CBCa}) +$

$(\text{CBDV} + 0.877 \cdot \text{CBDVa}) + \Delta 8\text{THC} + \text{CBL} + \text{CBN}$

**TERPENOID ANALYSIS - SUMMARY**

39 TESTED, TOP 3 HIGHLIGHTED

**Total Terpenoids: 0.0261%**



● **Limonene 0.169 mg/g**

● **Geranyl Acetate 0.092 mg/g**

**SAFETY ANALYSIS - SUMMARY**

**Pesticides: ND**

**Mycotoxins: ND**

**Residual Solvents: DETECTED**

**Heavy Metals: ND**

**Microbiology (PCR): ND**

**Microbiology (Plating): ND**

For quality assurance purposes. Not a Pre-Harvest Hemp Lab Test Report. These results relate only to the sample included on this report. This report shall not be reproduced, except in full, without written approval of the laboratory.

**Sample Certification:** Action Limits used in this report are a compilation of guidance from state regulatory agencies in all states. Action limits for required tests are either state-specific, or the lower of any conflicting state regulations based upon the panel requested.

**Decision Rule:** Statements of conformity (e.g. Pass/Fail) to specifications are made in this report without taking measurement uncertainty into account. Where statements of conformity are made in this report, the following decision rules are applied: PASS - Results within limits/specifications, FAIL - Results exceed limits/specifications.

**References:** limit of detection (LOD), limit of quantification (LOQ), not detected (ND), not tested (NT), too numerous to count >250 cfu/plate (TNTC), colony-forming unit (cfu)

*Randi Vuong*  
LOC verified by: Randi Vuong  
Date: 07/28/2021

*Josh Wurzer*  
Approved by: Josh Wurzer, President  
Date: 07/28/2021



## Cannabinoid Analysis

Tested by high-performance liquid chromatography with diode-array detection (HPLC-DAD).

Method: QSP 1157 - Analysis of Cannabinoids by HPLC-DAD

**TOTAL THC: Not Detected**

Total THC ( $\Delta 9$ THC+0.877\*THCa)

**TOTAL CBD: 1630.084 mg/unit**

Total CBD (CBD+0.877\*CBDA)

**TOTAL CANNABINOIDS: 1659.846 mg/unit**

Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) +  $\Delta 8$ THC + CBL + CBN

**TOTAL CBG: 15.640 mg/unit**

Total CBG (CBG+0.877\*CBGa)

**TOTAL THCV: ND**

Total THCV (THCV+0.877\*THCVa)

**TOTAL CBC: ND**

Total CBC (CBC+0.877\*CBCa)

**TOTAL CBDV: 4.785 mg/unit**

Total CBDV (CBDV+0.877\*CBDVa)

### CANNABINOID TEST RESULTS - 07/24/2021

| COMPOUND                   | LOD/LOQ (mg/g) | MEASUREMENT UNCERTAINTY (mg/g) | RESULT (mg/g)      | RESULT (%)     |
|----------------------------|----------------|--------------------------------|--------------------|----------------|
| CBD                        | 0.004 / 0.011  | $\pm 0.6690$                   | 13.966             | 1.3966         |
| CBG                        | 0.002 / 0.006  | $\pm 0.0083$                   | 0.134              | 0.0134         |
| CBN                        | 0.001 / 0.007  | $\pm 0.0030$                   | 0.080              | 0.0080         |
| CBDV                       | 0.002 / 0.012  | $\pm 0.0021$                   | 0.041              | 0.0041         |
| $\Delta 9$ THC             | 0.002 / 0.014  | N/A                            | ND                 | ND             |
| $\Delta 8$ THC             | 0.01 / 0.02    | N/A                            | ND                 | ND             |
| THCa                       | 0.001 / 0.005  | N/A                            | ND                 | ND             |
| THCV                       | 0.002 / 0.012  | N/A                            | ND                 | ND             |
| THCVa                      | 0.002 / 0.019  | N/A                            | ND                 | ND             |
| CBDA                       | 0.001 / 0.026  | N/A                            | ND                 | ND             |
| CBDVa                      | 0.001 / 0.018  | N/A                            | ND                 | ND             |
| CBGa                       | 0.002 / 0.007  | N/A                            | ND                 | ND             |
| CBL                        | 0.003 / 0.010  | N/A                            | ND                 | ND             |
| CBC                        | 0.003 / 0.010  | N/A                            | ND                 | ND             |
| CBCa                       | 0.001 / 0.015  | N/A                            | ND                 | ND             |
| <b>SUM OF CANNABINOIDS</b> |                |                                | <b>14.221 mg/g</b> | <b>1.4221%</b> |

### Unit Mass: 116.718 grams per Unit

|                              |                  |
|------------------------------|------------------|
| $\Delta 9$ THC per Unit      | ND               |
| Total THC per Unit           | ND               |
| CBD per Unit                 | 1630.084 mg/unit |
| Total CBD per Unit           | 1630.084 mg/unit |
| Sum of Cannabinoids per Unit | 1659.847 mg/unit |
| Total Cannabinoids per Unit  | 1659.846 mg/unit |





## Terpenoid Analysis

Terpene analysis utilizing gas chromatography-flame ionization detection (GC-FID).

Method: QSP 1192 - Analysis of Terpenoids by GC-FID

### 1 Limonene

A monoterpene with a fragrance that can be described as orangey, citrusy, sweet and tart. It is most commonly found in nature as D-Limonene and is a primary contributor to the distinct scent of orange peels, from which it is commonly derived. Found in numerous pines, red maple, silver maple, aspens, cottonwoods, hemlocks, sumac, cedar, junipers...etc.

### 2 Geranyl Acetate

A monoterpene ester with a fragrance that can be described as floral, fruity, waxy and herbal. Found in lemongrass, palmarosa, geranium, sassafras, carrot, coriander, bitter orange, Camden woollybutt...etc.

## TERPENOID TEST RESULTS - 07/25/2021

| COMPOUND                | LOD/LOQ (mg/g) | MEASUREMENT UNCERTAINTY (mg/g) | RESULT (mg/g)     | RESULT (%)     |
|-------------------------|----------------|--------------------------------|-------------------|----------------|
| Limonene                | 0.005 / 0.016  | ±0.0024                        | 0.169             | 0.0169         |
| Geranyl Acetate         | 0.004 / 0.014  | ±0.0038                        | 0.092             | 0.0092         |
| α Pinene                | 0.005 / 0.017  | N/A                            | ND                | ND             |
| Camphene                | 0.005 / 0.015  | N/A                            | ND                | ND             |
| Sabinene                | 0.004 / 0.014  | N/A                            | ND                | ND             |
| β Pinene                | 0.004 / 0.014  | N/A                            | ND                | ND             |
| Myrcene                 | 0.008 / 0.025  | N/A                            | ND                | ND             |
| α Phellandrene          | 0.006 / 0.020  | N/A                            | ND                | ND             |
| 3 Carene                | 0.005 / 0.018  | N/A                            | ND                | ND             |
| α Terpinene             | 0.005 / 0.017  | N/A                            | ND                | ND             |
| p-Cymene                | 0.005 / 0.016  | N/A                            | ND                | ND             |
| Eucalyptol              | 0.006 / 0.018  | N/A                            | ND                | ND             |
| Ocimene                 | 0.011 / 0.038  | N/A                            | ND                | ND             |
| γ Terpinene             | 0.006 / 0.018  | N/A                            | ND                | ND             |
| Sabinene Hydrate        | 0.006 / 0.022  | N/A                            | ND                | ND             |
| Fenchone                | 0.009 / 0.028  | N/A                            | ND                | ND             |
| Terpinolene             | 0.008 / 0.026  | N/A                            | ND                | ND             |
| Linalool                | 0.009 / 0.032  | N/A                            | ND                | ND             |
| Fenchol                 | 0.010 / 0.034  | N/A                            | ND                | ND             |
| (-)-Isopulegol          | 0.005 / 0.016  | N/A                            | ND                | ND             |
| Camphor                 | 0.006 / 0.019  | N/A                            | ND                | ND             |
| Isoborneol              | 0.004 / 0.012  | N/A                            | ND                | ND             |
| Borneol                 | 0.005 / 0.016  | N/A                            | ND                | ND             |
| Menthol                 | 0.008 / 0.025  | N/A                            | ND                | ND             |
| Terpineol               | 0.016 / 0.055  | N/A                            | ND                | ND             |
| Nerol                   | 0.003 / 0.011  | N/A                            | ND                | ND             |
| Citronellol             | 0.003 / 0.010  | N/A                            | ND                | ND             |
| R-(+)-Pulegone          | 0.003 / 0.011  | N/A                            | ND                | ND             |
| Geraniol                | 0.002 / 0.007  | N/A                            | ND                | ND             |
| α Cedrene               | 0.005 / 0.016  | N/A                            | ND                | ND             |
| β Caryophyllene         | 0.004 / 0.012  | N/A                            | ND                | ND             |
| trans-β-Farnesene       | 0.008 / 0.025  | N/A                            | ND                | ND             |
| α Humulene              | 0.009 / 0.029  | N/A                            | ND                | ND             |
| Valencene               | 0.009 / 0.030  | N/A                            | ND                | ND             |
| Nerolidol               | 0.009 / 0.028  | N/A                            | ND                | ND             |
| Caryophyllene Oxide     | 0.010 / 0.033  | N/A                            | ND                | ND             |
| Guaiol                  | 0.009 / 0.030  | N/A                            | ND                | ND             |
| Cedrol                  | 0.008 / 0.027  | N/A                            | ND                | ND             |
| α Bisabolol             | 0.008 / 0.026  | N/A                            | ND                | ND             |
| <b>TOTAL TERPENOIDS</b> |                |                                | <b>0.261 mg/g</b> | <b>0.0261%</b> |





## Pesticide Analysis

Pesticide and plant growth regulator analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS) or gas chromatography-mass spectrometry (GC-MS).

\*GC-MS utilized where indicated.

**Method:** QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS or QSP 1213 - Analysis of Pesticides by GC-MS

### PESTICIDE TEST RESULTS - 07/27/2021 ND

| COMPOUND            | LOD/LOQ (µg/g) | ACTION LIMIT (µg/g) | MEASUREMENT UNCERTAINTY (µg/g) | RESULT (µg/g) |
|---------------------|----------------|---------------------|--------------------------------|---------------|
| Abamectin           | 0.03 / 0.10    | 0.3                 | N/A                            | ND            |
| Acephate            | 0.02 / 0.07    | 5                   | N/A                            | ND            |
| Acequinocyl         | 0.02 / 0.07    | 4                   | N/A                            | ND            |
| Acetamiprid         | 0.02 / 0.05    | 5                   | N/A                            | ND            |
| Aldicarb            | 0.03 / 0.08    | ≥ LOD               | N/A                            | ND            |
| Azoxystrobin        | 0.02 / 0.07    | 40                  | N/A                            | ND            |
| Bifenazate          | 0.01 / 0.04    | 5                   | N/A                            | ND            |
| Bifenthrin          | 0.02 / 0.05    | 0.5                 | N/A                            | ND            |
| Boscalid            | 0.03 / 0.09    | 10                  | N/A                            | ND            |
| Captan              | 0.19 / 0.57    | 5                   | N/A                            | ND            |
| Carbaryl            | 0.02 / 0.06    | 0.5                 | N/A                            | ND            |
| Carbofuran          | 0.02 / 0.05    | ≥ LOD               | N/A                            | ND            |
| Chlorantraniliprole | 0.04 / 0.12    | 40                  | N/A                            | ND            |
| Chlordane*          | 0.03 / 0.08    | ≥ LOD               | N/A                            | ND            |
| Chlorfenapyr*       | 0.03 / 0.10    | ≥ LOD               | N/A                            | ND            |
| Chlorpyrifos        | 0.02 / 0.06    | ≥ LOD               | N/A                            | ND            |
| Clofentezine        | 0.03 / 0.09    | 0.5                 | N/A                            | ND            |
| Coumaphos           | 0.02 / 0.07    | ≥ LOD               | N/A                            | ND            |
| Cyfluthrin          | 0.12 / 0.38    | 1                   | N/A                            | ND            |
| Cypermethrin        | 0.11 / 0.32    | 1                   | N/A                            | ND            |
| Daminozide          | 0.02 / 0.07    | ≥ LOD               | N/A                            | ND            |
| DDVP (Dichlorvos)   | 0.03 / 0.09    | ≥ LOD               | N/A                            | ND            |
| Diazinon            | 0.02 / 0.05    | 0.2                 | N/A                            | ND            |
| Dimethoate          | 0.03 / 0.08    | ≥ LOD               | N/A                            | ND            |
| Dimethomorph        | 0.03 / 0.09    | 20                  | N/A                            | ND            |
| Ethoprop(hos)       | 0.03 / 0.10    | ≥ LOD               | N/A                            | ND            |
| Etofenprox          | 0.02 / 0.06    | ≥ LOD               | N/A                            | ND            |
| Etoxazole           | 0.02 / 0.06    | 1.5                 | N/A                            | ND            |
| Fenhexamid          | 0.03 / 0.09    | 10                  | N/A                            | ND            |
| Fenoxycarb          | 0.03 / 0.08    | ≥ LOD               | N/A                            | ND            |
| Fenpyroximate       | 0.02 / 0.06    | 2                   | N/A                            | ND            |
| Fipronil            | 0.03 / 0.08    | ≥ LOD               | N/A                            | ND            |
| Flonicamid          | 0.03 / 0.10    | 2                   | N/A                            | ND            |
| Fludioxonil         | 0.03 / 0.10    | 30                  | N/A                            | ND            |
| Hexythiazox         | 0.02 / 0.07    | 2                   | N/A                            | ND            |
| Imazalil            | 0.02 / 0.06    | ≥ LOD               | N/A                            | ND            |
| Imidacloprid        | 0.04 / 0.11    | 3                   | N/A                            | ND            |
| Kresoxim-methyl     | 0.02 / 0.07    | 1                   | N/A                            | ND            |
| Malathion           | 0.03 / 0.09    | 5                   | N/A                            | ND            |
| Metalaxyl           | 0.02 / 0.07    | 15                  | N/A                            | ND            |
| Methiocarb          | 0.02 / 0.07    | ≥ LOD               | N/A                            | ND            |

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## Pesticide Analysis *Continued*

Pesticide and plant growth regulator analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS) or gas chromatography-mass spectrometry (GC-MS).

\*GC-MS utilized where indicated.

**Method:** QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS or QSP 1213 - Analysis of Pesticides by GC-MS

## PESTICIDE TEST RESULTS - 07/27/2021 *continued ND*

| COMPOUND                 | LOD/LOQ (µg/g) | ACTION LIMIT (µg/g) | MEASUREMENT UNCERTAINTY (µg/g) | RESULT (µg/g) |
|--------------------------|----------------|---------------------|--------------------------------|---------------|
| Methomyl                 | 0.03 / 0.10    | 0.1                 | N/A                            | ND            |
| Methyl parathion         | 0.03 / 0.10    | ≥ LOD               | N/A                            | ND            |
| Mevinphos                | 0.03 / 0.09    | ≥ LOD               | N/A                            | ND            |
| Myclobutanil             | 0.03 / 0.09    | 9                   | N/A                            | ND            |
| Naled                    | 0.02 / 0.07    | 0.5                 | N/A                            | ND            |
| Oxamyl                   | 0.04 / 0.11    | 0.2                 | N/A                            | ND            |
| Paclobutrazol            | 0.02 / 0.05    | ≥ LOD               | N/A                            | ND            |
| Pentachloronitrobenzene* | 0.03 / 0.09    | 0.2                 | N/A                            | ND            |
| Permethrin               | 0.04 / 0.12    | 20                  | N/A                            | ND            |
| Phosmet                  | 0.03 / 0.10    | 0.2                 | N/A                            | ND            |
| Piperonylbutoxide        | 0.02 / 0.07    | 8                   | N/A                            | ND            |
| Prallethrin              | 0.03 / 0.08    | 0.4                 | N/A                            | ND            |
| Propiconazole            | 0.02 / 0.07    | 20                  | N/A                            | ND            |
| Propoxur                 | 0.03 / 0.09    | ≥ LOD               | N/A                            | ND            |
| Pyrethrins               | 0.04 / 0.12    | 1                   | N/A                            | ND            |
| Pyridaben                | 0.02 / 0.07    | 3                   | N/A                            | ND            |
| Spinetoram               | 0.02 / 0.07    | 3                   | N/A                            | ND            |
| Spinosad                 | 0.02 / 0.07    | 3                   | N/A                            | ND            |
| Spiromesifen             | 0.02 / 0.05    | 12                  | N/A                            | ND            |
| Spirotetramat            | 0.02 / 0.06    | 13                  | N/A                            | ND            |
| Spiroxamine              | 0.03 / 0.08    | ≥ LOD               | N/A                            | ND            |
| Tebuconazole             | 0.02 / 0.07    | 2                   | N/A                            | ND            |
| Thiacloprid              | 0.03 / 0.10    | ≥ LOD               | N/A                            | ND            |
| Thiamethoxam             | 0.03 / 0.10    | 4.5                 | N/A                            | ND            |
| Trifloxystrobin          | 0.03 / 0.08    | 30                  | N/A                            | ND            |



## Mycotoxin Analysis

Mycotoxin analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS).

**Method:** QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS

## MYCOTOXIN TEST RESULTS - 07/25/2021 ND

| COMPOUND        | LOD/LOQ (µg/kg) | ACTION LIMIT (µg/kg) | MEASUREMENT UNCERTAINTY (µg/kg) | RESULT (µg/kg) |
|-----------------|-----------------|----------------------|---------------------------------|----------------|
| Aflatoxin B1    | 2.0 / 6.0       | 5                    | N/A                             | ND             |
| Aflatoxin B2    | 1.8 / 5.6       | 20                   | N/A                             | ND             |
| Aflatoxin G1    | 1.0 / 3.1       | 20                   | N/A                             | ND             |
| Aflatoxin G2    | 1.2 / 3.5       | 20                   | N/A                             | ND             |
| Total Aflatoxin |                 | 20                   |                                 | ND             |
| Ochratoxin A    | 6.3 / 19.2      | 5                    | N/A                             | ND             |



 **Residual Solvents Analysis**

Residual Solvent analysis utilizing gas chromatography-mass spectrometry (GC-MS).

**Method:** QSP 1204 - Analysis of Residual Solvents by GC-MS

**RESIDUAL SOLVENTS TEST RESULTS - 07/25/2021 DETECTED**

| COMPOUND           | LOD/LOQ (µg/g) | ACTION LIMIT (µg/g) | MEASUREMENT UNCERTAINTY (µg/g) | RESULT (µg/g) |
|--------------------|----------------|---------------------|--------------------------------|---------------|
| Propane            | 10 / 20        | 5000                | N/A                            | ND            |
| Butane             | 10 / 50        | 5000                | N/A                            | ND            |
| Pentane            | 20 / 50        | 5000                | N/A                            | ND            |
| Hexane             | 2 / 5          | 290                 | N/A                            | ND            |
| Heptane            | 20 / 60        | 5000                | N/A                            | ND            |
| Benzene            | 0.03 / 0.09    | 1                   | N/A                            | ND            |
| Toluene            | 7 / 21         | 890                 | N/A                            | ND            |
| Total Xylenes      | 50 / 160       | 2170                | N/A                            | ND            |
| Methanol           | 50 / 200       | 3000                | N/A                            | ND            |
| Ethanol            | 20 / 50        | 5000                | ±3.4                           | 89            |
| Isopropyl Alcohol  | 10 / 40        | 5000                | N/A                            | ND            |
| Acetone            | 20 / 50        | 5000                | N/A                            | ND            |
| Ethyl ether        | 20 / 50        | 5000                | N/A                            | ND            |
| Ethylene Oxide     | 0.3 / 0.8      | 1                   | N/A                            | ND            |
| Ethyl acetate      | 20 / 60        | 5000                | N/A                            | ND            |
| Chloroform         | 0.1 / 0.2      | 1                   | N/A                            | ND            |
| Methylene chloride | 0.3 / 0.9      | 1                   | N/A                            | ND            |
| Trichloroethylene  | 0.1 / 0.3      | 1                   | N/A                            | ND            |
| 1,2-Dichloroethane | 0.05 / 0.1     | 1                   | N/A                            | ND            |
| Acetonitrile       | 2 / 7          | 410                 | N/A                            | ND            |

 **Heavy Metals Analysis**

Heavy metal analysis utilizing inductively coupled plasma-mass spectrometry (ICP-MS).

**Method:** QSP 1160 - Analysis of Heavy Metals by ICP-MS

**HEAVY METALS TEST RESULTS - 07/27/2021 ND**

| COMPOUND | LOD/LOQ (µg/g) | ACTION LIMIT (µg/g) | MEASUREMENT UNCERTAINTY (µg/g) | RESULT (µg/g) |
|----------|----------------|---------------------|--------------------------------|---------------|
| Arsenic  | 0.02 / 0.1     | 0.42                | N/A                            | ND            |
| Cadmium  | 0.02 / 0.05    | 0.27                | N/A                            | ND            |
| Lead     | 0.04 / 0.1     | 0.5                 | N/A                            | ND            |
| Mercury  | 0.002 / 0.01   | 0.4                 | N/A                            | ND            |





### Microbiology Analysis

#### PCR AND PLATING

Analysis conducted by polymerase chain reaction (PCR) and fluorescence detection of microbiological contaminants.

**Method:** QSP 1221 - Analysis of Microbiological Contaminants

#### MICROBIOLOGY TEST RESULTS (PCR) - 07/28/2021 ND

| COMPOUND                                      | ACTION LIMIT       | RESULT |
|---|--------------------|--------|
| Shiga toxin-producing <i>Escherichia coli</i> | Not Detected in 1g | ND     |
| <i>Salmonella</i> spp.                        | Not Detected in 1g | ND     |
| <i>Listeria monocytogenes</i>                 | Detect             | ND     |

Analysis conducted by 3M™ Petrifilm™ and plate counts of microbiological contaminants.

**Method:** QSP 6794 - Plating with 3M™ Petrifilm™

#### MICROBIOLOGY TEST RESULTS (PLATING) - 07/28/2021 ND

| COMPOUND               | ACTION LIMIT (cfu/g) | RESULT (cfu/g) |
|------------------------|----------------------|----------------|
| Total Aerobic Bacteria | 100                  | ND             |
| Total Yeast and Mold   | 10                   | ND             |

