

# Test Report: Commercial in Confidence

Fera Science Ltd,  
Sand Hutton,  
York,  
YO41 1LZ  
United Kingdom



1642

Test Report No.: FR001224\_S19049326

Date: 11<sup>th</sup> June 2020

|           |   |
|-----------|---|
| Customer: | MG Group Limited                                      |
| Analysis: | Suite of 7 cannabinoids and metals                    |
| Matrix:   | Various CBD products                                  |
| Received: | 6 <sup>th</sup> of December 2019                      |
| Analysed  | 11 <sup>th</sup> to 20 <sup>th</sup> of December 2019 |

## 1. BACKGROUND

This report describes the analytical testing of a CBD sample product.

The term "CBD" is an acronym for cannabidiol, which is one of several cannabinoids, or chemical compounds, that are found in cannabis and hemp plants.

The sample was analysed for the concentrations of 7 cannabinoids:

- **CBC**, Cannabichromene
- **CBD**, Cannabidiol
- **CBDA**, Cannabidiolic acid
- **CBG**, Cannabigerol
- **CBN**, Cannabinol
- **THC**, Tetrahydrocannabinol
- **THCA**, Tetrahydrocannabinolic acid

The sample was also analysed for the concentration of metals: Arsenic, Cadmium, Mercury and Lead.

# Test Report: Commercial in Confidence

## 2. SAMPLE DESCRIPTION

The sample was received at the laboratory in satisfactory condition and stored at ambient temperature prior to analysis.

The sample was received in duplicate and contained within amber glass vials with black plastic screw caps. A unique identifying number was assigned to the sample using the Fera laboratory information management system. The relevant sample details are shown in the table below.

| Sample information |  |             |                   |             |
|--------------------|--|-------------|-------------------|-------------|
| Fera reference     | Sample identification                                | Sample type | Batch/LOT code    | Best before |
| S19-049326         | Broad spectrum CBD tincture<br>250mg. B/N Tinc250/01 | CBD oil     | B/N<br>Tinc250/01 | N/A         |

## 3. SAMPLING AND ANALYSIS

### 3.1 Cannabinoids

**Cannabidiol (CBD)** - The sample was extracted into solvent and diluted before CBD was determined using LC-UV. Accuracy of the method was assessed by analysing in-house reference material with known concentrations of CBD alongside the sample.

**Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)** - The sample was extracted into solvent and diluted before the cannabinoids were determined using LC-UV. Accuracy of the method was assessed by overspiking samples with a known concentration of each cannabinoid. **This method does not fall under the scope of our ISO17025 accreditation.**

### 3.2 Metals

Aliquots of homogenised test sample were digested in a mixture of nitric acid and hydrochloric acid using a high-pressure microwave system. Quantification was by inductively coupled plasma-mass spectrometry (ICP-MS) with collision cell. Quality checks included blanks, spikes and certified reference materials.

# Test Report: Commercial in Confidence

## 4. RESULTS

### 4.1 Cannabidiol

| Sample information |  |         |
|--------------------|--|---------|
| Fera reference     | Customer identification                              | CBD (%) |
| S19-049326         | Broad spectrum CBD tincture<br>250mg. B/N Tinc250/01 | 2.4     |

Expanded relative measurement uncertainty (95% confidence) for CBD is 12.8%.

### 4.2 Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)

| Sample identification |   | Other cannabinoid concentrations (%) |        |        |        |        |        |
|-----------------------|---|--------------------------------------|--------|--------|--------|--------|--------|
| Fera reference        | Sample identification                                   | CBC                                  | CBDA   | CBG    | CBN    | THC    | THCA   |
| S19-049326            | Broad spectrum CBD<br>tincture 250mg. B/N<br>Tinc250/01 | 0.01                                 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |

### 4.3 Metals

| Sample identification |   | Metal concentrations (mg/kg) |         |         |         |
|-----------------------|---|------------------------------|---------|---------|---------|
| Fera reference        | Sample identification                                   | Arsenic                      | Cadmium | Mercury | Lead    |
| S19-049326            | Broad spectrum CBD<br>tincture 250mg. B/N<br>Tinc250/01 | < 0.005                      | < 0.005 | < 0.01  | < 0.005 |

# Test Report: Commercial in Confidence

|                                |  |              |          |
|--------------------------------|--|--------------|----------|
| <b>Issuing Officer:</b>        | Mark Harrison, Analytical chemist            | <b>Date:</b> | 23/12/19 |
| <b>Countersigning Manager:</b> | Michael Dickinson, Senior analytical chemist | <b>Date:</b> | 23/12/19 |

This report has been prepared by Fera Science Limited ("Fera") for the for the sole benefit of MG Group Limited. This document, and all the information, images and intellectual property rights in it belong to Fera (or its licensees). No part of the text or graphics may be reproduced without the prior written permission of Fera. Except as otherwise advised in writing by Fera, this information is confidential in nature must be treated by the receiver with at least the degree of care that it applies to its own confidential information (and always with at least a reasonable standard of care).

Fera shall not be liable for any claims, losses, demands or damages of any kind whatsoever (whether such claims, losses, demands or damages were foreseeable, known or otherwise and whether direct, indirect or consequential) arising out of or in connection with: (i) any advice given by Fera or its representatives; and/or (ii) the preparation of any technical or scientific reports. Fera makes no representation as to the suitability of using any particular goods in any manufacturing processes or scientific research, nor as to their use in conjunction with any other materials. Fera shall not be liable for any reliance placed on, nor for any recommendations, interpretation, analysis, guidance, suggestions, proposals or endorsements made in connection with, the services and/or the commercial or scientific activities carried out by Fera or its representatives.

© 2020 Fera Science Limited

# Test Report: Commercial in Confidence

Fera Science Ltd,  
Sand Hutton,  
York,  
YO41 1LZ  
United Kingdom



1642

Test Report No.: FR001224\_S19049327

Date: 11<sup>th</sup> June 2020

|           |   |
|-----------|---|
| Customer: | MG Group Limited                                      |
| Analysis: | Suite of 7 cannabinoids and metals                    |
| Matrix:   | Various CBD products                                  |
| Received: | 6 <sup>th</sup> of December 2019                      |
| Analysed  | 11 <sup>th</sup> to 20 <sup>th</sup> of December 2019 |

## 1. BACKGROUND

This report describes the analytical testing of a CBD sample product.

The term "CBD" is an acronym for cannabidiol, which is one of several cannabinoids, or chemical compounds, that are found in cannabis and hemp plants.

The sample was analysed for the concentrations of 7 cannabinoids:

- **CBC**, Cannabichromene
- **CBD**, Cannabidiol
- **CBDA**, Cannabidiolic acid
- **CBG**, Cannabigerol
- **CBN**, Cannabinol
- **THC**, Tetrahydrocannabinol
- **THCA**, Tetrahydrocannabinolic acid

The sample was also analysed for the concentration of metals: Arsenic, Cadmium, Mercury and Lead.

# Test Report: Commercial in Confidence

## 2. SAMPLE DESCRIPTION

The sample was received at the laboratory in satisfactory condition and stored at ambient temperature prior to analysis.

The sample was received in duplicate and contained within amber glass vials with black plastic screw caps. A unique identifying number was assigned to the sample using the Fera laboratory information management system. The relevant sample details are shown in the table below.

| Sample information |  |             |                   |             |
|--------------------|--|-------------|-------------------|-------------|
| Fera reference     | Sample identification                                | Sample type | Batch/LOT code    | Best before |
| S19-049327         | Broad spectrum CBD tincture<br>500mg. B/N Tinc500/01 | CBD oil     | B/N<br>Tinc500/01 | N/A         |

## 3. SAMPLING AND ANALYSIS

### 3.1 Cannabinoids

**Cannabidiol (CBD)** - The sample was extracted into solvent and diluted before CBD was determined using LC-UV. Accuracy of the method was assessed by analysing in-house reference material with known concentrations of CBD alongside the sample.

**Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)** - The sample was extracted into solvent and diluted before the cannabinoids were determined using LC-UV. Accuracy of the method was assessed by overspiking samples with a known concentration of each cannabinoid. **This method does not fall under the scope of our ISO17025 accreditation.**

### 3.2 Metals

Aliquots of homogenised test sample were digested in a mixture of nitric acid and hydrochloric acid using a high-pressure microwave system. Quantification was by inductively coupled plasma-mass spectrometry (ICP-MS) with collision cell. Quality checks included blanks, spikes and certified reference materials.

# Test Report: Commercial in Confidence

## 4. RESULTS

### 4.1 Cannabidiol

| Sample information |  |         |
|--------------------|--|---------|
| Fera reference     | Customer identification                              | CBD (%) |
| S19-049327         | Broad spectrum CBD tincture<br>500mg. B/N Tinc500/01 | 4.3     |

Expanded relative measurement uncertainty (95% confidence) for CBD is 12.8%.

### 4.2 Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)

| Sample identification |   | Other cannabinoid concentrations (%) |        |        |        |        |        |
|-----------------------|---|--------------------------------------|--------|--------|--------|--------|--------|
| Fera reference        | Sample identification                             | CBC                                  | CBDA   | CBG    | CBN    | THC    | THCA   |
| S19-049327            | Broad spectrum CBD tincture 500mg. B/N Tinc500/01 | 0.02                                 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |

### 4.3 Metals

| Sample identification |   | Metal concentrations (mg/kg) |         |         |         |
|-----------------------|---|------------------------------|---------|---------|---------|
| Fera reference        | Sample identification                             | Arsenic                      | Cadmium | Mercury | Lead    |
| S19-049327            | Broad spectrum CBD tincture 500mg. B/N Tinc500/01 | < 0.005                      | < 0.005 | < 0.01  | < 0.005 |

# Test Report: Commercial in Confidence

|                                |  |              |          |
|--------------------------------|--|--------------|----------|
| <b>Issuing Officer:</b>        | Mark Harrison, Analytical chemist            | <b>Date:</b> | 23/12/19 |
| <b>Countersigning Manager:</b> | Michael Dickinson, Senior analytical chemist | <b>Date:</b> | 23/12/19 |

This report has been prepared by Fera Science Limited ("Fera") for the for the sole benefit of MG Group Limited. This document, and all the information, images and intellectual property rights in it belong to Fera (or its licensees). No part of the text or graphics may be reproduced without the prior written permission of Fera. Except as otherwise advised in writing by Fera, this information is confidential in nature must be treated by the receiver with at least the degree of care that it applies to its own confidential information (and always with at least a reasonable standard of care).

Fera shall not be liable for any claims, losses, demands or damages of any kind whatsoever (whether such claims, losses, demands or damages were foreseeable, known or otherwise and whether direct, indirect or consequential) arising out of or in connection with: (i) any advice given by Fera or its representatives; and/or (ii) the preparation of any technical or scientific reports. Fera makes no representation as to the suitability of using any particular goods in any manufacturing processes or scientific research, nor as to their use in conjunction with any other materials. Fera shall not be liable for any reliance placed on, nor for any recommendations, interpretation, analysis, guidance, suggestions, proposals or endorsements made in connection with, the services and/or the commercial or scientific activities carried out by Fera or its representatives.

© 2020 Fera Science Limited



# Test Report: Commercial in Confidence

Fera Science Ltd,  
Sand Hutton,  
York,  
YO41 1LZ  
United Kingdom



1642

Test Report No.: FR001224\_S20031619

Date: 6<sup>th</sup> July 2020

|           |  |
|-----------|--|
| Customer: | MG Group Limited   |
| Analysis: | Suite of 7 cannabinoids by HPLC-UV                       |
| Matrix:   | CBD oil  |
| Received: | 24 <sup>th</sup> of June 2020                            |
| Analysed  | 26 <sup>th</sup> of June to 1 <sup>st</sup> of July 2020 |

## 1. BACKGROUND

This report describes the analytical testing of a CBD sample product.

The term "CBD" is an acronym for cannabidiol, which is one of several cannabinoids, or chemical compounds, that are found in cannabis and hemp plants.

The sample was analysed for the concentrations of 7 cannabinoids:

- **CBC**, Cannabichromene
- **CBD**, Cannabidiol
- **CBDA**, Cannabidiolic acid
- **CBG**, Cannabigerol
- **CBN**, Cannabinol
- **THC**, Tetrahydrocannabinol
- **THCA**, Tetrahydrocannabinolic acid

## 2. SAMPLE DESCRIPTION

The sample was received at the laboratory in satisfactory condition and stored at ambient temperature prior to analysis.

The sample was received in a 10 mL amber glass vial with black plastic screw cap. A label with the customers identification letter was attached to the side of the vial.

A unique identifying number was assigned to the sample using the Fera laboratory information management system. The relevant sample details are shown in the table below.

# Test Report: Commercial in Confidence

| Sample information |  |                     |                       |                |             |
|--------------------|--|---------------------|-----------------------|----------------|-------------|
| Fera reference     | Sample identification                              | Bottle label        | Sample type           | Batch/LOT code | Best before |
| S20-031619         | Broad spectrum CBD tincture<br>1000mg. B/N 1000/01 | Full spec<br>1000 G | Broad<br>spectrum oil | B/N<br>1000/01 | N/A         |

## 3. SAMPLING AND ANALYSIS

### 3.1 Cannabinoids

**Cannabidiol (CBD)** - The sample was extracted into solvent and diluted before CBD was determined using LC-UV. Accuracy of the method was assessed by analysing in-house reference material with known concentrations of CBD alongside the sample.

**Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)** - The sample was extracted into solvent and diluted before the cannabinoids were determined using LC-UV. Accuracy of the method was assessed by overspiking blank oil with a known concentration of each cannabinoid. **These analytes do not fall under the scope of our ISO17025 accreditation.**

## 4. RESULTS

### 4.1 Cannabidiol

| Sample information |  |         |
|--------------------|--|---------|
| Fera reference     | Sample identification                              | CBD (%) |
| S20-031619         | Broad spectrum CBD tincture<br>1000mg. B/N 1000/01 | 9.9     |

Expanded relative measurement uncertainty (95% confidence) for CBD is 12.8%.

### 4.2 Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)

| Sample identification |   | Other cannabinoid concentrations (%) |        |       |       |       |       |
|-----------------------|---|--------------------------------------|--------|-------|-------|-------|-------|
| Fera reference        | Sample identification                                 | CBC                                  | CBDA   | CBG   | CBN   | THC   | THCA  |
| S20-031619            | Broad spectrum CBD<br>tincture 1000mg. B/N<br>1000/01 | 0.050                                | <0.002 | 0.006 | 0.012 | 0.006 | 0.052 |

# Test Report: Commercial in Confidence

|                                |   |              |          |
|--------------------------------|---|--------------|----------|
| <b>Issuing Officer:</b>        | Mark Harrison, Analytical chemist         | <b>Date:</b> | 02/07/20 |
| <b>Countersigning Manager:</b> | Rosario Romero, Senior analytical chemist | <b>Date:</b> | 06/07/20 |

This report has been prepared by Fera Science Limited ("Fera") for the for the sole benefit of MG Group Limited. This document, and all the information, images and intellectual property rights in it belong to Fera (or its licensees). No part of the text or graphics may be reproduced without the prior written permission of Fera. Except as otherwise advised in writing by Fera, this information is confidential in nature must be treated by the receiver with at least the degree of care that it applies to its own confidential information (and always with at least a reasonable standard of care).

Fera shall not be liable for any claims, losses, demands or damages of any kind whatsoever (whether such claims, losses, demands or damages were foreseeable, known or otherwise and whether direct, indirect or consequential) arising out of or in connection with: (i) any advice given by Fera or its representatives; and/or (ii) the preparation of any technical or scientific reports. Fera makes no representation as to the suitability of using any particular goods in any manufacturing processes or scientific research, nor as to their use in conjunction with any other materials. Fera shall not be liable for any reliance placed on, nor for any recommendations, interpretation, analysis, guidance, suggestions, proposals or endorsements made in connection with, the services and/or the commercial or scientific activities carried out by Fera or its representatives.

© 2020 Fera Science Limited

# Test Report: Commercial in Confidence

Fera Science Ltd,  
Sand Hutton,  
York,  
YO41 1LZ  
United Kingdom



1642

Test Report No.: FR001224\_S20031620

Date: 6<sup>th</sup> July 2020

|           |  |
|-----------|--|
| Customer: | MG Group Limited   |
| Analysis: | Suite of 7 cannabinoids by HPLC-UV                       |
| Matrix:   | CBD oil  |
| Received: | 24 <sup>th</sup> of June 2020                            |
| Analysed  | 26 <sup>th</sup> of June to 1 <sup>st</sup> of July 2020 |

## 1. BACKGROUND

This report describes the analytical testing of a CBD sample product.

The term "CBD" is an acronym for cannabidiol, which is one of several cannabinoids, or chemical compounds, that are found in cannabis and hemp plants.

The sample was analysed for the concentrations of 7 cannabinoids:

- **CBC**, Cannabichromene
- **CBD**, Cannabidiol
- **CBDA**, Cannabidiolic acid
- **CBG**, Cannabigerol
- **CBN**, Cannabinol
- **THC**, Tetrahydrocannabinol
- **THCA**, Tetrahydrocannabinolic acid

## 2. SAMPLE DESCRIPTION

The sample was received at the laboratory in satisfactory condition and stored at ambient temperature prior to analysis.

The sample was received in a 10 mL amber glass vial with black plastic screw cap. A label with the customers identification letter was attached to the side of the vial.

A unique identifying number was assigned to the sample using the Fera laboratory information management system. The relevant sample details are shown in the table below.

# Test Report: Commercial in Confidence

| Sample information |  |                     |                       |                |             |
|--------------------|--|---------------------|-----------------------|----------------|-------------|
| Fera reference     | Sample identification                              | Bottle label        | Sample type           | Batch/LOT code | Best before |
| S20-031620         | Broad spectrum CBD tincture<br>1500mg. B/N 1500/01 | Full spec<br>1500 F | Broad<br>spectrum oil | B/N<br>1500/01 | N/A         |

## 3. SAMPLING AND ANALYSIS

### 3.1 Cannabinoids

**Cannabidiol (CBD)** - The sample was extracted into solvent and diluted before CBD was determined using LC-UV. Accuracy of the method was assessed by analysing in-house reference material with known concentrations of CBD alongside the sample.

**Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)** - The sample was extracted into solvent and diluted before the cannabinoids were determined using LC-UV. Accuracy of the method was assessed by overspiking blank oil with a known concentration of each cannabinoid. **These analytes do not fall under the scope of our ISO17025 accreditation.**

## 4. RESULTS

### 4.1 Cannabidiol

| Sample information |  |         |
|--------------------|--|---------|
| Fera reference     | Sample identification                              | CBD (%) |
| S20-031620         | Broad spectrum CBD tincture<br>1500mg. B/N 1500/01 | 14.2    |

Expanded relative measurement uncertainty (95% confidence) for CBD is 12.8%.

### 4.2 Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)

| Sample identification |   | Other cannabinoid concentrations (%) |        |       |       |       |       |
|-----------------------|---|--------------------------------------|--------|-------|-------|-------|-------|
| Fera reference        | Sample identification                                 | CBC                                  | CBDA   | CBG   | CBN   | THC   | THCA  |
| S20-031620            | Broad spectrum CBD<br>tincture 1500mg. B/N<br>1500/01 | 0.070                                | <0.002 | 0.011 | 0.022 | 0.011 | 0.078 |

# Test Report: Commercial in Confidence

|                                |   |              |          |
|--------------------------------|---|--------------|----------|
| <b>Issuing Officer:</b>        | Mark Harrison, Analytical chemist         | <b>Date:</b> | 02/07/20 |
| <b>Countersigning Manager:</b> | Rosario Romero, Senior analytical chemist | <b>Date:</b> | 06/07/20 |

This report has been prepared by Fera Science Limited ("Fera") for the for the sole benefit of MG Group Limited. This document, and all the information, images and intellectual property rights in it belong to Fera (or its licensees). No part of the text or graphics may be reproduced without the prior written permission of Fera. Except as otherwise advised in writing by Fera, this information is confidential in nature must be treated by the receiver with at least the degree of care that it applies to its own confidential information (and always with at least a reasonable standard of care).

Fera shall not be liable for any claims, losses, demands or damages of any kind whatsoever (whether such claims, losses, demands or damages were foreseeable, known or otherwise and whether direct, indirect or consequential) arising out of or in connection with: (i) any advice given by Fera or its representatives; and/or (ii) the preparation of any technical or scientific reports. Fera makes no representation as to the suitability of using any particular goods in any manufacturing processes or scientific research, nor as to their use in conjunction with any other materials. Fera shall not be liable for any reliance placed on, nor for any recommendations, interpretation, analysis, guidance, suggestions, proposals or endorsements made in connection with, the services and/or the commercial or scientific activities carried out by Fera or its representatives.

© 2020 Fera Science Limited

# Test Report: Commercial in Confidence

Fera Science Ltd,  
Sand Hutton,  
York,  
YO41 1LZ  
United Kingdom



1642

Test Report No.: FR001224\_S20031621

Date: 6<sup>th</sup> July 2020

|           |  |
|-----------|--|
| Customer: | MG Group Limited   |
| Analysis: | Suite of 7 cannabinoids by HPLC-UV                       |
| Matrix:   | CBD oil  |
| Received: | 24 <sup>th</sup> of June 2020                            |
| Analysed  | 26 <sup>th</sup> of June to 1 <sup>st</sup> of July 2020 |

## 1. BACKGROUND

This report describes the analytical testing of a CBD sample product.

The term "CBD" is an acronym for cannabidiol, which is one of several cannabinoids, or chemical compounds, that are found in cannabis and hemp plants.

The sample was analysed for the concentrations of 7 cannabinoids:

- **CBC**, Cannabichromene
- **CBD**, Cannabidiol
- **CBDA**, Cannabidiolic acid
- **CBG**, Cannabigerol
- **CBN**, Cannabinol
- **THC**, Tetrahydrocannabinol
- **THCA**, Tetrahydrocannabinolic acid

## 2. SAMPLE DESCRIPTION

The sample was received at the laboratory in satisfactory condition and stored at ambient temperature prior to analysis.

The sample was received in a 10 mL amber glass vial with black plastic screw cap. A label with the customers identification letter was attached to the side of the vial.

A unique identifying number was assigned to the sample using the Fera laboratory information management system. The relevant sample details are shown in the table below.

# Test Report: Commercial in Confidence

| Sample information |  |                     |                       |                |             |
|--------------------|--|---------------------|-----------------------|----------------|-------------|
| Fera reference     | Sample identification                              | Bottle label        | Sample type           | Batch/LOT code | Best before |
| S20-031621         | Broad spectrum CBD tincture<br>2000mg. B/N 2000/01 | Full spec<br>2000 D | Broad<br>spectrum oil | B/N<br>2000/01 | N/A         |

## 3. SAMPLING AND ANALYSIS

### 3.1 Cannabinoids

**Cannabidiol (CBD)** - The sample was extracted into solvent and diluted before CBD was determined using LC-UV. Accuracy of the method was assessed by analysing in-house reference material with known concentrations of CBD alongside the sample.

**Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)** - The sample was extracted into solvent and diluted before the cannabinoids were determined using LC-UV. Accuracy of the method was assessed by overspiking blank oil with a known concentration of each cannabinoid. **These analytes do not fall under the scope of our ISO17025 accreditation.**

## 4. RESULTS

### 4.1 Cannabidiol

| Sample information |  |         |
|--------------------|--|---------|
| Fera reference     | Sample identification                              | CBD (%) |
| S20-031621         | Broad spectrum CBD tincture<br>2000mg. B/N 2000/01 | 17.4    |

Expanded relative measurement uncertainty (95% confidence) for CBD is 12.8%.

### 4.2 Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)

| Sample identification |   | Other cannabinoid concentrations (%) |        |       |       |       |       |
|-----------------------|---|--------------------------------------|--------|-------|-------|-------|-------|
| Fera reference        | Sample identification                                 | CBC                                  | CBDA   | CBG   | CBN   | THC   | THCA  |
| S20-031621            | Broad spectrum CBD<br>tincture 2000mg. B/N<br>2000/01 | 0.089                                | <0.002 | 0.015 | 0.028 | 0.017 | 0.090 |



# Test Report: Commercial in Confidence

|                                |   |              |          |
|--------------------------------|---|--------------|----------|
| <b>Issuing Officer:</b>        | Mark Harrison, Analytical chemist         | <b>Date:</b> | 02/07/20 |
| <b>Countersigning Manager:</b> | Rosario Romero, Senior analytical chemist | <b>Date:</b> | 06/07/20 |

This report has been prepared by Fera Science Limited ("Fera") for the for the sole benefit of MG Group Limited. This document, and all the information, images and intellectual property rights in it belong to Fera (or its licensees). No part of the text or graphics may be reproduced without the prior written permission of Fera. Except as otherwise advised in writing by Fera, this information is confidential in nature must be treated by the receiver with at least the degree of care that it applies to its own confidential information (and always with at least a reasonable standard of care).

Fera shall not be liable for any claims, losses, demands or damages of any kind whatsoever (whether such claims, losses, demands or damages were foreseeable, known or otherwise and whether direct, indirect or consequential) arising out of or in connection with: (i) any advice given by Fera or its representatives; and/or (ii) the preparation of any technical or scientific reports. Fera makes no representation as to the suitability of using any particular goods in any manufacturing processes or scientific research, nor as to their use in conjunction with any other materials. Fera shall not be liable for any reliance placed on, nor for any recommendations, interpretation, analysis, guidance, suggestions, proposals or endorsements made in connection with, the services and/or the commercial or scientific activities carried out by Fera or its representatives.

© 2020 Fera Science Limited

# Test Report: Commercial in Confidence

Fera Science Ltd,  
Sand Hutton,  
York,  
YO41 1LZ  
United Kingdom



1642

Test Report No.: FR001224\_S20030415b

Date: 19<sup>th</sup> June 2020

|           |  |
|-----------|--|
| Customer: | MG Group Limited                                 |
| Analysis: | Suite of 7 cannabinoids by HPLC-UV               |
| Matrix:   | CBD oil  |
| Received: | 4 <sup>th</sup> of June 2020                     |
| Analysed  | 8 <sup>th</sup> to 12 <sup>th</sup> of June 2020 |

## 1. BACKGROUND

This report describes the analytical testing of a CBD sample product.

The term "CBD" is an acronym for cannabidiol, which is one of several cannabinoids, or chemical compounds, that are found in cannabis and hemp plants.

The sample was analysed for the concentrations of 7 cannabinoids:

- **CBC**, Cannabichromene
- **CBD**, Cannabidiol
- **CBDA**, Cannabidiolic acid
- **CBG**, Cannabigerol
- **CBN**, Cannabinol
- **THC**, Tetrahydrocannabinol
- **THCA**, Tetrahydrocannabinolic acid

## 2. SAMPLE DESCRIPTION

The sample was received at the laboratory in satisfactory condition and stored at ambient temperature prior to analysis.

The sample was received in a 10 mL amber glass vial with black plastic screw cap. A label with the customers identification letter was attached to the side of the vial.

A unique identifying number was assigned to the sample using the Fera laboratory information management system. The relevant sample details are shown in the table below.

# Test Report: Commercial in Confidence

| Sample information |  |                    |                |             |
|--------------------|--|--------------------|----------------|-------------|
| Fera reference     | Sample identification                              | Sample type        | Batch/LOT code | Best before |
| S20-030415         | Broad spectrum CBD tincture<br>3000mg. B/N 3000/01 | Broad spectrum oil | B/N 3000/01    | N/A         |

## 3. SAMPLING AND ANALYSIS

### 3.1 Cannabinoids

**Cannabidiol (CBD)** - The sample was extracted into solvent and diluted before CBD was determined using LC-UV. Accuracy of the method was assessed by analysing in-house reference material with known concentrations of CBD alongside the sample.

**Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)** - The sample was extracted into solvent and diluted before the cannabinoids were determined using LC-UV. Accuracy of the method was assessed by overspiking blank oil with a known concentration of each cannabinoid. **This method does not fall under the scope of our ISO17025 accreditation.**

## 4. RESULTS

### 4.1 Cannabidiol

| Sample information |  |         |
|--------------------|--|---------|
| Fera reference     | Customer identification                            | CBD (%) |
| S20-030415         | Broad spectrum CBD tincture<br>3000mg. B/N 3000/01 | 28.4    |

Expanded relative measurement uncertainty (95% confidence) for CBD is 12.8%.

### 4.2 Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)

| Sample identification |   | Other cannabinoid concentrations (%) |         |      |      |      |      |
|-----------------------|---|--------------------------------------|---------|------|------|------|------|
| Fera reference        | Sample identification                           | CBC                                  | CBDA    | CBG  | CBN  | THC  | THCA |
| S20-030415            | Broad spectrum CBD tincture 3000mg. B/N 3000/01 | 0.15                                 | < 0.002 | 0.02 | 0.05 | 0.02 | 0.03 |

# Test Report: Commercial in Confidence

|                                |   |              |          |
|--------------------------------|---|--------------|----------|
| <b>Issuing Officer:</b>        | Mark Harrison, Analytical chemist         | <b>Date:</b> | 12/06/20 |
| <b>Countersigning Manager:</b> | Rosario Romero, Senior analytical chemist | <b>Date:</b> | 16/06/20 |

This report has been prepared by Fera Science Limited ("Fera") for the for the sole benefit of MG Group Limited. This document, and all the information, images and intellectual property rights in it belong to Fera (or its licensees). No part of the text or graphics may be reproduced without the prior written permission of Fera. Except as otherwise advised in writing by Fera, this information is confidential in nature must be treated by the receiver with at least the degree of care that it applies to its own confidential information (and always with at least a reasonable standard of care).

Fera shall not be liable for any claims, losses, demands or damages of any kind whatsoever (whether such claims, losses, demands or damages were foreseeable, known or otherwise and whether direct, indirect or consequential) arising out of or in connection with: (i) any advice given by Fera or its representatives; and/or (ii) the preparation of any technical or scientific reports. Fera makes no representation as to the suitability of using any particular goods in any manufacturing processes or scientific research, nor as to their use in conjunction with any other materials. Fera shall not be liable for any reliance placed on, nor for any recommendations, interpretation, analysis, guidance, suggestions, proposals or endorsements made in connection with, the services and/or the commercial or scientific activities carried out by Fera or its representatives.

© 2020 Fera Science Limited

# Test Report: Commercial in Confidence

Fera Science Ltd,  
Sand Hutton,  
York,  
YO41 1LZ  
United Kingdom



1642

Test Report No.: FR001224\_S20031622

Date: 6<sup>th</sup> July 2020

|           |  |
|-----------|--|
| Customer: | MG Group Limited   |
| Analysis: | Suite of 7 cannabinoids by HPLC-UV                       |
| Matrix:   | CBD oil  |
| Received: | 24 <sup>th</sup> of June 2020                            |
| Analysed  | 26 <sup>th</sup> of June to 1 <sup>st</sup> of July 2020 |

## 1. BACKGROUND

This report describes the analytical testing of a CBD sample product.

The term "CBD" is an acronym for cannabidiol, which is one of several cannabinoids, or chemical compounds, that are found in cannabis and hemp plants.

The sample was analysed for the concentrations of 7 cannabinoids:

- **CBC**, Cannabichromene
- **CBD**, Cannabidiol
- **CBDA**, Cannabidiolic acid
- **CBG**, Cannabigerol
- **CBN**, Cannabinol
- **THC**, Tetrahydrocannabinol
- **THCA**, Tetrahydrocannabinolic acid

## 2. SAMPLE DESCRIPTION

The sample was received at the laboratory in satisfactory condition and stored at ambient temperature prior to analysis.

The sample was received in a 10 mL amber glass vial with black plastic screw cap. A label with the customers identification letter was attached to the side of the vial.

A unique identifying number was assigned to the sample using the Fera laboratory information management system. The relevant sample details are shown in the table below.

# Test Report: Commercial in Confidence

| Sample information |  |                     |                       |                |             |
|--------------------|--|---------------------|-----------------------|----------------|-------------|
| Fera reference     | Sample identification                              | Bottle label        | Sample type           | Batch/LOT code | Best before |
| S20-031622         | Broad spectrum CBD tincture<br>4000mg. B/N 4000/01 | Full spec<br>4000 E | Broad<br>spectrum oil | B/N<br>4000/01 | N/A         |

## 3. SAMPLING AND ANALYSIS

### 3.1 Cannabinoids

**Cannabidiol (CBD)** - The sample was extracted into solvent and diluted before CBD was determined using LC-UV. Accuracy of the method was assessed by analysing in-house reference material with known concentrations of CBD alongside the sample.

**Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)** - The sample was extracted into solvent and diluted before the cannabinoids were determined using LC-UV. Accuracy of the method was assessed by overspiking blank oil with a known concentration of each cannabinoid. **These analytes do not fall under the scope of our ISO17025 accreditation.**

## 4. RESULTS

### 4.1 Cannabidiol

| Sample information |  |         |
|--------------------|--|---------|
| Fera reference     | Sample identification                              | CBD (%) |
| S20-031622         | Broad spectrum CBD tincture<br>4000mg. B/N 4000/01 | 35.9    |

Expanded relative measurement uncertainty (95% confidence) for CBD is 12.8%.

### 4.2 Cannabichromene (CBC), cannabidiolic acid (CBD-A), cannabigerol (CBG), cannabinol (CBN), Tetrahydrocannabinol (THC) and tetrahydrocannabinolic acid (THC-A)

| Sample identification |   | Other cannabinoid concentrations (%) |        |       |       |       |       |
|-----------------------|---|--------------------------------------|--------|-------|-------|-------|-------|
| Fera reference        | Sample identification                                 | CBC                                  | CBDA   | CBG   | CBN   | THC   | THCA  |
| S20-031622            | Broad spectrum CBD<br>tincture 4000mg. B/N<br>4000/01 | 0.181                                | <0.002 | 0.035 | 0.057 | 0.043 | 0.196 |

# Test Report: Commercial in Confidence

|                                |   |              |          |
|--------------------------------|---|--------------|----------|
| <b>Issuing Officer:</b>        | Mark Harrison, Analytical chemist         | <b>Date:</b> | 02/07/20 |
| <b>Countersigning Manager:</b> | Rosario Romero, Senior analytical chemist | <b>Date:</b> | 06/07/20 |

This report has been prepared by Fera Science Limited ("Fera") for the for the sole benefit of MG Group Limited. This document, and all the information, images and intellectual property rights in it belong to Fera (or its licensees). No part of the text or graphics may be reproduced without the prior written permission of Fera. Except as otherwise advised in writing by Fera, this information is confidential in nature must be treated by the receiver with at least the degree of care that it applies to its own confidential information (and always with at least a reasonable standard of care).

Fera shall not be liable for any claims, losses, demands or damages of any kind whatsoever (whether such claims, losses, demands or damages were foreseeable, known or otherwise and whether direct, indirect or consequential) arising out of or in connection with: (i) any advice given by Fera or its representatives; and/or (ii) the preparation of any technical or scientific reports. Fera makes no representation as to the suitability of using any particular goods in any manufacturing processes or scientific research, nor as to their use in conjunction with any other materials. Fera shall not be liable for any reliance placed on, nor for any recommendations, interpretation, analysis, guidance, suggestions, proposals or endorsements made in connection with, the services and/or the commercial or scientific activities carried out by Fera or its representatives.

© 2020 Fera Science Limited