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Test Report No.: FR001224_S19049326 **Date: 11th June 2020**

Customer:	**MG Group Limited**
Analysis:	**Suite of 7 cannabinoids and metals**
Matrix:	**Various CBD products**
Received:	**6th of December 2019**
Analysed	**11th to 20th 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.

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 250mg. B/N Tinc250/01	CBD oil	B/N 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 cannabinnoids 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.

4. RESULTS

4.1 Cannabidiol

Sample information		
Fera reference	**Customer identification**	**CBD (%)**
S19-049326	Broad spectrum CBD tincture 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 tincture 250mg. B/N 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 tincture 250mg. B/N Tinc250/01	**< 0.005**	**< 0.005**	**< 0.01**	**< 0.005**

Issuing Officer:	Mark Harrison, Analytical chemist	**Date:**	23/12/19
Countersigning Manager:	Michael Dickinson, Senior analytical chemist	**Date:**	23/12/19