


420 Fortune Blvd
Milford, MA 01757

Sample ID: **108792**
Order No.: **39486**

Report Title: **Certificate of Analysis**
Revision: **1**
Report Date: **9/5/2022**



B. RMD INFO	C. SAMPLE IDENTIFICATION	D. PICTURE OF SAMPLE
<p>SkyNutro 65 Moon Street Southbridge, MA 01550 Attn: Kim Melanson Manifest No: n/a Date Received: 8/30/2022</p>	<p>METRC Package ID: n/a Sample Name: ReliefCBDRelax Prod. Batch ID: n/a Source Pkg. ID: n/a</p>	
E. SAMPLE PROPERTIES	F. PRODUCT CHARACTERIZATION	G. TEST TYPE RUN
<p>Sample Size: 0 # of Servings: n/a Matrix: Liquid Matrix Other: n/a Sample Condition: Unremarkable Retest: No Remediated: No Description: n/a</p>	<p>Product Stage: Marijuana-Infused Product (MIP) Product Class: Tincture Other: n/a Product Type: Tincture Retail Name: ReliefCBDRelax Grow Material: n/a Intended Route of Consumption: n/a Other: n/a Extraction Solvent: n/a Other: n/a</p>	<p><input checked="" type="checkbox"/> (CN) Cannabinoid Profile <input checked="" type="checkbox"/> (HM) Heavy Metal Analysis <input checked="" type="checkbox"/> (MB) Microbiology Test <input checked="" type="checkbox"/> (PT) Pathogen Screen <input checked="" type="checkbox"/> (MY) Mycotoxin Test <input type="checkbox"/> (VC) Residual Solvent Test <input checked="" type="checkbox"/> (PS) Pesticide Screen <input type="checkbox"/> (TP) Terpene Profile <input type="checkbox"/> (VEA) Vitamin E Acetate <input type="checkbox"/> (PSZP) Particle Size/Zeta Potential <input type="checkbox"/> (WAMA) Water Activity / Moisture Analysis <input type="checkbox"/> (VI) Filth & Foreign Matter</p>



The data contained within this report was collected in accordance with the requirements of ISO/IEC17025:2017. I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

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H. CASE NARRATIVE
<p>For full Case Narrative, see details in PAGE 2</p>

THIS PRODUCT
<p><input checked="" type="checkbox"/> May be dispensed <input type="checkbox"/> May be dispensed as INGESTION only <input type="checkbox"/> May NOT be dispensed</p>

LAB AUTHORIZATION SIGNATURE
<p>Chris Hudalla, Ph.D.  Chief Science Officer</p>

H. CASE NARRATIVE

The sample was provided to the laboratory by a RMD agent. Sample was submitted in a sealed container under ambient conditions. Chain of Custody seal was intact. All recorded contaminants are within the established limits.

Test Summary:

Cannabinoid Analysis: The sample was analyzed for cannabinoids by Liquid Chromatography (WI-10-17). Prior to analysis, sample was prepared by extraction with an organic solvent, filtered and diluted with an appropriate HPLC diluent. The recorded data was compared to data collected for certified reference standards for quantification.

Heavy Metal Analysis: The sample was analyzed for heavy metals by Inductively Coupled Plasma Mass Spectrometry (WI-10-13). Prior to analysis, sample was prepared by a microwave assisted acidic digestion, followed by dilution with acidified water. The recorded data was compared to data collected for certified reference standards for quantification.

Microbiological Screening: The sample was analyzed for microbial contaminants by an automated Most Probable Number enumeration (WI-10-09) [BioMerieux]. Prior to analysis, sample was prepared with peptone buffered water to extract microbial contaminants.

Pathogenic Bacteria: The sample was analyzed for the pathogenic bacteria E. coli and salmonella with an automated Enzyme-Linked Fluorescence Assay (WI-10-10) [BioMerieux]. Prior to analysis, sample was prepared with peptone buffered water to extract microbial contaminants, followed by incubation to enrich potential contaminants.

Mycotoxin Testing: The sample was analyzed for mycotoxins using an ImmunoAffinity Assay with fluorometric detection (WI-10-05). Prior to analysis, sample was extracted with organic solvent, followed by the ImmunoAffinity column clean-up.

Pesticide Analysis: The sample was screened for the presence of pesticide residues by Liquid Chromatography with Tandem Mass Spectrometric detection (WI-10-11). Prior to analysis, the sample was extracted with acetonitrile followed by chemical cleanup and filtration of the extract. A duplicate aliquot of the sample extract was spiked with a pesticide standard mixture to evaluate matrix effects and perform matrix-matched quantitation of incurred residues. Peak identity was confirmed by monitoring the relative abundance of at least two fragmentation transitions of the target pseudo-molecular ion.

QC Summary:

Cannabinoid QC: A method blank was prepared in parallel with the study sample, using only associated reagents, with no matrix included. In addition, quantitation was evaluated with a Continuing Calibration Verification (CCV) sample.

Heavy Metals QC: A method blank was prepared in parallel with the study sample, using only associated reagents, with no matrix included. In addition, quantitation was evaluated with a Continuing Calibration Verification (CCV) sample.

Microbiological QC: A method blank was prepared in parallel with the study sample, using only associated reagents, with no matrix included. In addition, an environmental blank was collected using a 3M PetriFilm, that was exposed to work area during sample preparation, followed by incubation to confirm the absence of environmental contaminants.

Pathogenic Bacteria QC: For each pathogen, a positive and negative control sample is run on a monthly basis.

Mycotoxin QC: Performance of fluorometer is verified daily using standard reference materials prior to data measurement.

Pesticide QC: A method blank was prepared in parallel with the study sample, using only associated reagents, with no matrix included. In addition, quantitation was evaluated with a Continuing Calibration Verification (CCV) sample.

TABLE I: CANNABINOID PROFILE						Analysis Date: 9/1/2022
Sample ID: 108792 By UPLC					Analyst: AC	
This sample was analyzed using Liquid Chromatography (LC). The collected data was compared to data collected for a reference standards at a known concentration.						
Test ID	Analyte	Concentration <i>unit = %wt</i>	"Dose" weight <i>unit = mg/mL</i>	LOD <i>unit = ppm</i>	LOQ <i>unit = ppm</i>	
A108792	Δ9-THC	ND	ND	39.3	118	
A108792	THCV	ND	ND	39.3	118	
A108792	CBD	0.687	6.12	39.3	118	
A108792	CBDV	<LOQ	<LOQ	39.3	118	
A108792	CBG	ND	ND	39.3	118	
A108792	CBC	<LOQ	<LOQ	39.3	118	
A108792	CBN	0.674	6.00	39.3	118	
A108792	THCA	ND	ND	39.3	118	
A108792	CBDA	ND	ND	39.3	118	
A108792	CBGA	ND	ND	39.3	118	
A108792	CBDVA	ND	ND	39.3	118	
A108792	Δ8-THC	ND	ND	39.3	118	
A108792	exo-THC	ND	ND	39.3	118	
	Max THC	-	ND			
	Max CBD	0.687 wt%	6.12			
	Total Cannabinoid (TAC)	1.36 wt%	12.1			
	CBD to THC Ratio	0 : 1				

There are no limits established by the Massachusetts Department of Public Health for cannabinoid concentrations. Max THC (and Max CBD) are calculated values for total cannabinoids after heating, assuming complete decarboxylation of the acid to the neutral form. It is calculated based on the weight loss of the acid group during decarboxylation: Max THC = (0.877 x THCA) + THC. This calculation includes concentrations of both D8- and D9-THC, but does not include other cannabinoid isomers (e.g. exo-THC). ND = None detected above the Limits of Detection (LOD).

TABLE J: HEAVY METALS							Analysis Date: 8/31/2022	
Sample ID: 108792 By ICPMS				Lab SOP #: WI-10-13		Analyst: ZDV		
This sample was analyzed by elemental analysis using Inductively Coupled Plasma Mass Spectrometry (ICP-MS) for the identification of heavy metal constituents. External calibration curves for heavy metals were used for quantitation, with an additional internal reference standard. Resulting data was compared with a sample blank.								
Test ID	Analyte	Concentration ¹ <i>unit = ppb</i>	LOD <i>unit = ppb</i>	LOQ <i>unit = ppb</i>	Limits - All Use ² <i>Limits (ppb) Test</i>		Limits - Ingestion Only ² <i>Limits (ppb) Test</i>	
108792	As	ND	25	50	200	PASS	1500	PASS
108792	Cd	ND	25	50	200	PASS	500	PASS
108792	Hg	ND	25	50	100	PASS	1500	PASS
108792	Pb	ND	25	50	500	PASS	1000	PASS

1) ND = None detected to the Limit of Detection (LOD).

2) Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 4.

TABLE K: MICROBIOLOGICAL CONTAMINANTS						Analysis Date: 8/31/2022
Sample ID: 108792 By MPN		Lab SOP #: WI-10-09			Analyst: SRD	
This sample was analyzed for microbiological contaminants using an automated Most Probable Number (MPN) methodology with cultured enrichments.						
Test ID	Analyte Symbol	Test Analysis	Result	Unit	Standard Limits <i>unit = CFU/g</i>	Limit Test
108792	YM	Total Yeast & Mold	<100	CFU/g	10,000 CFU/g	PASS
108792	CC	Total Coliform Bacterial Count	<100	CFU/g	1,000 CFU/g	PASS
108792	EB	Total Bile Tolerant Gram Negative Count	<100	CFU/g	1,000 CFU/g	PASS
108792	AC	Total Aerobic Bacterial Count	<100	CFU/g	100,000 CFU/g	PASS

Recommended limits established by the American Herbal Pharmacopoeia (AHP) monograph for Cannabis Inflorescence [2013], for consumable botanical products, including processed and unprocessed cannabis materials, and solvent-based extracts. Note: All recorded Microbiological tests are within the established limits.

*Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6.

TABLE L: PATHOGENIC BACTERIA						Analysis Date: 9/1/2022
Sample ID: 108792 By ELFA		Lab SOP #: WI-10-10			Analyst: AEH	
This sample was analyzed for pathogenic bacteria using an automated Enzyme Linked Fluorescent Assay (ELFA). Quality control checks are performed monthly by running both a positive and a negative control sample for each pathogen.						
Test ID	Analyte Symbol	Test Analysis	Result	Standard Limits	Limit Test	
108792	ECPT	E. coli (O157)	Negative	Non Detected in 1g	PASS	
108792	SPT	Salmonella	Negative	Non Detected in 1g	PASS	

Note: All recorded pathogenic bacteria tests passed.

*Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6.

TABLE M: MYCOTOXINS							Analysis Date: 8/31/2022
Sample ID: 108792 By IA/Fluorescen		Lab SOP #: WI-10-05			ST: ANALYST: ANALYST: ANALYST:		
This sample was analyzed for mycotoxins using an Immunofluorescence based assay (IA). Data was compared to readings from standard reference materials.							
Test ID	Analyte Symbol	Analyte	Result <i>unit = ppb</i>	LOD <i>unit = ppb</i>	LOQ <i>unit = ppb</i>	Standard Limits <i>unit = ppb</i>	Limit Test
108792	Afla	Total Aflatoxin	< LOD	2	4	< 20	PASS
108792	Ochra	Total Ochratoxin	< LOQ	3	6	< 20	PASS

Note: All recorded Mycotoxin tests are within the established limits.

*Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6.

MLD = Method Detection Limit.

TABLE O: PESTICIDES							Analysis Date: 8/31/2022
Sample ID: 108792 By LCMSMS			Lab SOP #: WI-10-11		Analyst: CJR		
This sample was analyzed for pesticides using Liquid Chromatography with Mass Spectrometric detection (LC/MS/MS). The method used for sample prep was based on the European method for pesticide analysis (EN 15662).							
Test ID	Analyte	Result <i>unit = ppb</i>	LOD <i>unit = ppb</i>	LOQ <i>unit = ppb</i>	Standard Limits <i>unit = ppb</i> <i>Test</i>		Method QA/QC Test
108792	Bifenazate	ND	5	10	10	PASS	MS/MSD
108792	Bifenthrin	ND	5	20	10	PASS	MS/MSD
108792	Cyfluthrin	ND	100	500	10	PASS	MS/MSD
108792	Etoxazole	ND	5	20	10	PASS	MS/MSD
108792	Imazalil	ND	50	100	10	PASS	MS/MSD
108792	Imidacloprid	ND	5	20	10	PASS	MS/MSD
108792	Myclobutanil	ND	5	20	10	PASS	MS/MSD
108792	Spiromesifen	ND	5	40	10	PASS	MS/MSD
108792	Trifloxystrobin	ND	5	20	10	PASS	MS/MSD

Note: All recorded Pesticide are within the established limits.

* Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 5. ND indicates "none detected" above the lower limit of detection (LLD). Analytes marked with (*) indicate analytes for which no recovery was observed for a pre-spiked matrix sample due to matrix interference.

TABLE R: QC RESULTS - HEAVY METALS				Analysis Date: 8/31/2022
Analytical Method: ICPMS		Lab SOP #: WI-10-13		Analyst: ZDV
A blank sample was prepared in parallel with the study sample, using only associated reagents with no matrix included.				
Analyte	Prep. Concentration <i>unit = ppb</i>	Measured Concentration <i>unit = ppb</i>	Recovery %	
As	500	545	109	
Cd	500	543	109	
Hg	2.5	2.45	98.1	
Pb	500	499	99.7	

TABLE S: QC RESULTS - MICROBIOLOGICAL CONTAMINANTS			Analysis Date: 8/31/2022
Analytical Method: MPN		Lab SOP #: WI-10-09	Analyst: SRD
Monthly quality control checks are used to validate the equipment used for reading incubated microbiological cultures, performing multiple readings at various concentrations to confirm performance. Date of last QC check must be within 30 days of recorded measurements.			
Date of most recent QC Check: 8/3/2022			
Status: PASS			

TABLE T: QC RESULTS - PATHOGENIC BACTERIA					Analysis Date: 8/25/2022
Analytical Method: ELFA		Lab SOP #: WI-10-10		Analyst: AEH	
For each pathogen, a positive and negative control sample is run as a QC check on a monthly basis. In addition, for each pathogen, two standard samples are tested to ensure accurate readings. Date of last QC check must be within 30 days of recorded measurements.					
Test Date	QC Check	Pathogen	Result	Status	
8/25/2022	Control (-)	Salmonella	Negative	PASS	
8/25/2022	Control (-)	E. coli (O157)	Negative	PASS	
8/25/2022	Control (+)	Salmonella	Positive	PASS	

8/25/2022	Control (+)	E. coli (O157)	Positive	PASS
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TABLE U: QC RESULTS - MYCOTOXINS			Analysis Date: 8/31/2022	
Analytical Method: IA/FLUORESCENC		Lab SOP #: WI-10-05		Analyst: CMH
Performance of fluorometer is verified using standard reference materials prior to data measurements.				
Analyte	Reference Concentration <i>unit = ppb</i>	Measured Concentration <i>unit = ppb</i>	Status	
Aflatoxin Reference	79 ± 5	79	PASS	
Ochratoxin Reference	79 ± 5	79	PASS	

TABLE W: QC RESULTS - PESTICIDES				Analysis Date: 8/31/2022	
			Lab SOP #: WI-10-11		Analyst: CJR
A matrix spiked with a mixture of the individual pesticides was prepared such that the final concentration of each pesticide for analysis was 50 ppb.					
Analyte	Prep. Concentration <i>unit = ppb</i>	Measured Concentration <i>unit = ppb</i>	Recovery %	Status	
Bifenazate	50.0	27.8	56%	PASS	
Bifenthrin	50.0	26.5	53%	PASS	
Cyfluthrin	50.0	25.7	51%	PASS	
Etoxazole	50.0	27.5	55%	PASS	
Imazalil	50.0	24.9	50%	PASS	
Imidacloprid	50.0	26.1	52%	PASS	
Myclobutanil	50.0	25.8	52%	PASS	
Spiromesifen	50.0	28.0	56%	PASS	
Trifloxystrobin	50.0	26.8	54%	PASS	

END OF REPORT