Certificate of Analysis

420 Fortune Blvd
Milford, MA 01757

Sample ID: **130617**
Order No.: **45191**

Report Title: **Certificate of Analysis**
Revision: **1**
Report Date: **2/28/2025**

B. RMD INFO

Atlantic Medicinal Partners
774 Crawford Street
Fitchburg, MA 01420

Manifest No: **0002731055**
Date Received: **2/24/2025**

C. SAMPLE IDENTIFICATION

METRC Package ID: **1A40A01000029CE000002218**
Sample Name: **Sativa Vape**
Prod. Batch ID: **S.Vp21425.4197**
Source Pkg. ID: **1A40A01000029CE000004197**

D. PICTURE OF SAMPLE

E. SAMPLE PROPERTIES

Sample Size: **4g**
# of Servings: **n/a**
Matrix: **Semi-Solid**
Matrix Other: **n/a**
Sample Condition: **Unremarkable**
Retest: **No**
Remediated: **No**
Description: **n/a**

F. PRODUCT CHARACTERIZATION

Product Stage: **Cannabis Resin & Concentrates**
Product Class: **Distillate**
Other: **n/a**
Product Type: **Distillate**
Retail Name: **Sativa Vape**
Grow Material: **n/a**
Intended Route of Consumption **n/a**
Other: **n/a**
Extraction Solvent: **n/a**
Other: **n/a**

G. TEST TYPE RUN

(CN) Cannabinoid Profile
(VC) Residual Solvent Test
(MY) Mycotoxin Test
(HM) Heavy Metal Analysis
(MB) Microbiology Test
(PT) Pathogen Screen
(VEA) Vitamin E Acetate

PJLA Testing Accreditation # 80585

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.

ProVerde Laboratories, Inc. is an ISO/IEC 17025:2017 accredited laboratory, registered with Perry Johnson Laboratory Accreditation Inc., certificate #L23-91-1, accreditation #80585, expiring April 30, 2025.

H. CASE NARRATIVE

For full Case Narrative, see details in PAGE 2

Total Potency (CN)	*Pesticides (PST)*	*Micro (MB)*	*Solvents (VOC)*
87.9 wt%	**Not Tested**	**PASS**	**PASS**
Terpenes (TP)	*Heavy Metals (HM)*	*Mycotoxins (MY)*	*Vitamin E Acetate (VEA)*
Not Tested	**PASS**	**PASS**	**PASS**

THIS PRODUCT

- [x] May be dispensed
- [ ] May be dispensed as INGESTION only
- [ ] May NOT be dispensed

LAB AUTHORIZATION SIGNATURE

Chris Hudalla, Ph.D.
Chief Science Officer

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.

Residual Solvent Analysis: The sample was analyzed for residual solvents by Headspace Gas Chromatography (WI-10-28). Prior to analysis, sample was prepared in a headspace vial and incubated at elevated temperature to vaporize volatile compounds. The recorded data was compared to data collected for certified reference standards for quantification.

Vitamin E acetate Analysis: The sample was analyzed for vitamin E acetate by Liquid Chromatography (UPLC). Prior to analysis, sample was prepared with a solvent dilution. The recorded data was compared to data collected for certified reference standards for quantification.

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.

Residual Solvents QC: A method blank was prepared in parallel with the study sample, using an empty headspace vial, with no matrix included. In addition, quantitation was evaluated with a Continuing Calibration Verification (CCV) sample.

TABLE I: CANNABINOID PROFILE Analysis Date: 2/25/2025

Sample ID: 130617 By UPLC Lab SOP #: WI-10-17 & WI-10-17-01 Analyst: SD

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 *unit = %wt*	"Dose" weight *unit = mg/g*	LOD *unit = ppm*	LOQ *unit = ppm*
A130617	D9-THC	81.6	816	150.00	450.00
A130617	THCV	0.551	5.51	150.00	450.00
A130617	CBD	0.202	2.02	150.00	450.00
A130617	CBDV	0.0725	0.725	150.00	450.00
A130617	CBG	1.99	19.9	150.00	450.00
A130617	CBC	1.10	11.0	150.00	450.00
A130617	CBN	1.07	10.7	150.00	450.00
A130617	THCA	1.14	11.4	150.00	450.00
A130617	CBDA	ND	ND	150.00	450.00
A130617	CBGA	0.146	1.46	150.00	450.00
A130617	CBDVA	ND	ND	150.00	450.00
A130617	D8-THC	ND	ND	150.00	450.00
A130617	exo-THC	ND	ND	150.00	450.00
	Total THC	82.6 wt%	826		
	Total CBD	0.202 wt%	2.02		
	Total Cannabinoid (TAC)	87.9 wt%	879		
	CBD to THC Ratio	**0 : 1**			

Measurements are based on sample as received.

There are no limits established by the Massachusetts Cannabis Control Commission for cannabinoid concentrations. Total THC and CBD values are based on the assumption that acidic cannabinoids have been decarboxylated, such that Total THC = (0.877 x THCA) + D9-THC and Total CBD = (0.877 x CBDA) + CBD. ND = None Detected above the Limits of Detection (LOD).

TABLE J: HEAVY METALS Analysis Date: 2/25/2025

Sample ID: 130617 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] *unit = ppb*	LOD *unit = ppb*	LOQ *unit = ppb*	Limits - All Use [2] *Limits (ppb)*	*Test*	Limits - Ingestion Only [2] *Limits (ppb)*	*Test*
130617	As	ND	25	50	200	PASS	1500	PASS
130617	Cd	ND	25	50	200	PASS	500	PASS
130617	Hg	ND	25	50	100	PASS	1500	PASS
130617	Pb	ND	25	50	500	PASS	1000	PASS

2) Testing limits established by the Massachusetts Cannabis Control Commission, 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: 2/26/2025

Sample ID: 130617 By MPN Lab SOP #: WI-10-09 Analyst: AEH

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 *unit = CFU/g*	Limit Test
130617	AC	Total Aerobic Bacterial Count	<100	CFU/g	10,000 CFU/g	PASS
130617	CC	Total Coliform Bacterial Count	<100	CFU/g	100 CFU/g	PASS
130617	EB	Total Bile Tolerant Gram Negative Count	<100	CFU/g	100 CFU/g	PASS
130617	YM	Total Yeast & Mold	<100	CFU/g	1,000 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.All recorded Microbiological tests are within the established limits.

*Testing limits established by the Massachusetts Cannabis Control Commission, 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: 2/27/2025

Sample ID: 130617 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
130617	ECPT	E. coli (O157)	Negative	Non Detected in 1g	PASS
130617	SPT	Salmonella	Negative	Non Detected in 1g	PASS

Note: All recorded pathogenic bacteria tests passed.

*Testing limits established by the Massachusetts Cannabis Control Commission, 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: 2/26/2025

Sample ID: 130617 By IA/Fluorescence Lab SOP #: WI-10-05 Analyst: CR

This sample was analyzed for mycotoxins using an Immunoaffinity based assay (IA). Data was compared to readings from standard reference materials.

Test ID	Analyte Symbol	Analyte	Result *unit = ppb*	LOD *unit = ppb*	LOQ *unit = ppb*	Standard Limits *unit = ppb*	Limit Test
130617	Afla	Total Aflatoxin	< LOD	2	4	< 20	PASS
130617	Ochra	Total Ochratoxin	< LOD	3	6	< 20	PASS

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

*Testing limits established by the Massachusetts Cannabis Control Commission, 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 N: RESIDUAL SOLVENTS						Analysis Date: 2/26/2025
Sample ID: 130617 By GC-MS		Lab SOP #: WI-10-28				Analyst: KEM
This sample was analyzed for residual solvents using Head-Space Gas Chromatograph (HS-GC).						
Test ID	**Analyte**	**Result** *unit = ppm*	**RL** *unit = ppm*	**LOQ** *unit = ppm*	**Standard Limits** *unit=ppm*	**Limit Test**
130617	Propane	ND	4	1	12	PASS
130617	Isobutane	ND	4	1	12	PASS
130617	Butane	ND	4	1	12	PASS
130617	Methanol	ND	100	1	3,000	PASS
130617	Pentane	ND	100	1	5,000	PASS
130617	Ethanol	ND	100	1	5,000	PASS
130617	Acetone	ND	100	1	5,000	PASS
130617	Isopropanol	ND	100	1	5,000	PASS
130617	Acetonitrile	ND	100	1	410	PASS
130617	Hexane	ND	100	1	290	PASS
130617	Heptane	ND	100	1	5,000	PASS

Note: ND = None detected to RL. All recorded Residual Solvents are within the established limits.

* Testing limits established by the Massachusetts Cannabis Control Commission, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6 and Circular Letter: DHCQ-15-08-638.

TABLE P1: VITAMIN E ACETATE						Analysis Date: 2/25/2002
Sample ID: 130617 By UPLC		Lab SOP #: WI-10-38				Analyst: AEH
This sample was analyzed using Liquid Chromatography (LC) with UV detection. The collected data was compared to data collected for a vitamin E acetate reference standard, prepared at a concentration of 100 ppm.						
Test ID	**Analyte**	**CAS Number**	**Concentration** *unit = wt%*	**LOD** *unit = wt%*	**LOQ** *unit = wt%*	**Status**
130617	alpha-tocopheryl acetate	58-95-7	ND	0.025	0.1	PASS

ND – Not Detected at a level greater than the reporting limit (RL)

END OF REPORT