


Certificate ID: **96376** Received: **8/6/21**
 Client Sample ID: **MaryFuel 20210810**
 Lot Number: **MF20210810**
 Matrix: **Water Soluble - Tween 20 and Lecitin**

Scan QR Code
for authenticity



Kannastar d.o.o.
Sokolowska 11-75 Wola
Warsaw, Poland 01124
Attn: Liangzi Qu

Authorization: Chris Hudalla, Chief Science Officer	Signature: 	Date: 8/16/2021
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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.

HM: Heavy Metal Analysis [WI-10-13]

Analyst: CJS

Test Date: 8/11/2021

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

96376-HM

Symbol	Metal	Conc. ¹ (µg/kg)	RL	Use Limits ² (µg/kg)		Status
				All	Ingestion	
As	Arsenic	ND	50.0	200	1,500	PASS
Cd	Cadmium	ND	50.0	200	500	PASS
Hg	Mercury	ND	50.0	100	1,500	PASS
Pb	Lead	ND	50.0	500	1,000	PASS

- 1) ND = None detected above the indicated Reporting Limit (RL)
- 2) MA Dept. of Public Health: Protocol for MMJ and MIPS, Exhibit 4(a) for all products.
- 3) USP exposure limits based on daily oral dosing of 1g of concentrate for a 110 lb person.

MB1: Microbiological Contaminants [WI-10-09]

Analyst: MM

Test Date: 8/9/2021

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

96376-MB1

Symbol	Analysis	Results	Units	Limits*	Status
AC	Total Aerobic Bacterial Count	<100	CFU/g	100,000 CFU/g	PASS
CC	Total Coliform Bacterial Count	<100	CFU/g	1,000 CFU/g	PASS
EB	Total Bile Tolerant Gram Negative Count	<100	CFU/g	1,000 CFU/g	PASS
YM	Total Yeast & Mold	<100	CFU/g	10,000 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.

MB2: Pathogenic Bacterial Contaminants [WI-10-10]

Analyst: MM

Test Date: 8/10/2021

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

96376-MB2

Test ID	Analysis	Results	Units	Limits*	Status
96376-ECPT	E. coli (O157)	Negative	NA	Non Detected	PASS
96376-SPT	Salmonella	Negative	NA	Non Detected	PASS

Note: All recorded pathogenic bacteria tests passed.

TP: Terpenes Profile [WI-10-27]

Analyst: CJS

Test Date: 8/12/2021

Client sample analysis was performed using full evaporative technique (FET) headspace sample delivery and gas chromatographic (GC) compound separation. A combination of flame ionization detection (FID) and/or mass spectrometric (MS) detection with mass spectral confirmation against the National Institute of Standards and Technology (NIST) Mass Spectral Database, Revision 2017 were used. Chromatographic and/or mass spectral data were processed by quantitatively comparing the analytical peak areas against calibration curves prepared from certified reference standards.

96376-TP

Compound	CAS	Conc. (wt%)	Conc. (ppm)	Qualitative Profile	
alpha-pinene	80-56-8	ND	ND		
camphene	79-92-5	ND	ND		
sabinene*	3387-41-5	ND	ND		
beta-myrcene	123-35-3	ND	ND		
beta-pinene	127-91-3	ND	ND		
alpha-phellandrene	99-83-2	ND	ND		
delta-3-carene	13466-78-9	ND	ND		
alpha-terpinene	99-86-5	ND	ND		
alpha-ocimene	502-99-8	ND	ND		
D-limonene	138-86-3	ND	ND		
p-cymene	99-87-6	ND	ND		
cis-beta-ocimene	3338-55-4	ND	ND		
eucalyptol	470-82-6	ND	ND		
gamma-terpinene	99-85-4	ND	ND		
terpinolene	586-62-9	ND	ND		
linalool	78-70-6	ND	ND		
L-fenchone*	7787-20-4	ND	ND		
isopulegol	89-79-2	ND	ND		
menthol*	89-78-1	ND	ND		
geraniol	106-24-1	ND	ND		
beta-caryophyllene	87-44-5	ND	ND		
alpha-humulene	6753-98-6	ND	ND		
cis-nerolidol	3790-78-1	ND	ND		
trans-nerolidol	40716-66-3	ND	ND		
guaiol	489-86-1	ND	ND		
caryophyllene oxide	1139-30-6	ND	ND		
alpha-bisabolol	23089-26-1	ND	ND		
Total Terpene: <0.1 wt%			ppm 0.00	5.00	10.00

* Certified reference standard not available for this compound. Concentration is estimated using the response factor from alpha-pinene. ND = None Detected. RL = Reporting Limit of 5 ppm.

VC: Analysis of Volatile Organic Compounds [WI-10-28]

Analyst: CJS

Test Date: 8/13/2021

The client sample was analyzed by Head-Space Gas Chromatography (HS-GC). The collected data was compared to data collected for certified reference standards at known concentrations.

96376-VC

Compound	CAS	Amount ¹	Limit ²	RL	Status
Propane	74-98-6	ND	1,000 ppm	100	PASS
Isobutane	75-28-5	ND	1,000 ppm	100	PASS
Butane	106-97-8	ND	1,000 ppm	100	PASS
Methanol	67-56-1	ND	3,000 ppm	100	PASS
Pentane	109-66-0	ND	5,000 ppm	100	PASS
Ethanol	64-17-5	ND	5,000 ppm	100	PASS
Acetone	67-64-1	ND	5,000 ppm	100	PASS
Isopropanol	67-63-0	ND	5,000 ppm	100	PASS
Acetonitrile	75-05-8	ND	410 ppm	100	PASS
Hexane	110-54-3	ND	290 ppm	100	PASS
Heptane	142-82-5	ND	5,000 ppm	100	PASS

1) ND = Not detected at a level greater than the Reporting Limit (RL).

2) In ppm, based on USP recommended limits for residual solvents, adopted by the Massachusetts Department of Public Health for cannabis concentrates and extracts on 3/31/16. Butane/Propane limits are based on limits established for state of Colorado.

(*) For ethanol, as many formulations contain flavorings based on ethanol extracts of natural products, no status has been assigned.

END OF REPORT