

# CERTIFICATE OF ANALYSIS

## ISO/IEC 17025:2017 ACCREDITATION #103104



Order #: 50343  
 Order Name: OH Topical 333  
 mg Roll-On  
 Batch#: OH1333104  
 Received: 03/06/2020  
 Completed: 03/17/2020

Arise Bioscience Inc.  
 4855 Technology Way Suite 500  
 Boca Raton Florida, 33431  
 (866) 407-1164



### Sample



**0.044%**  
D9-THC

**1.048%**  
Total CBD

**339.2 mg**  
Cannabinoids per stick

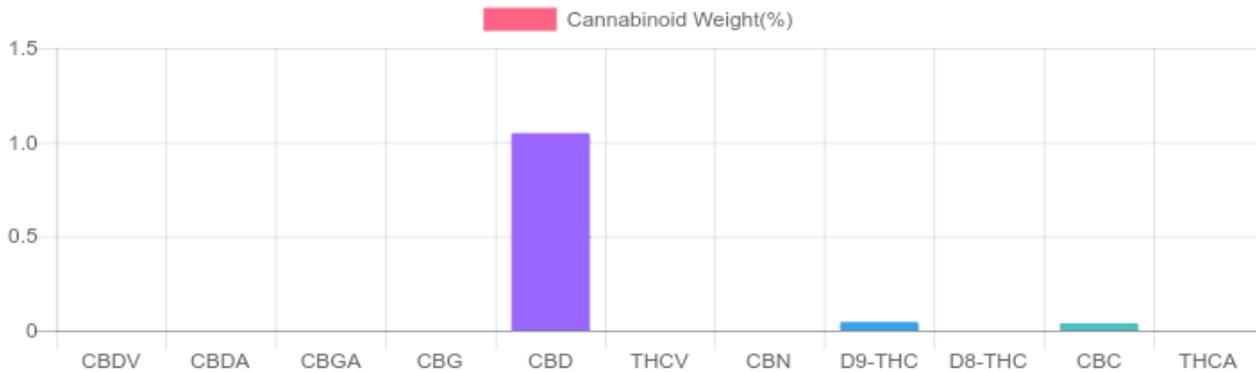
**314.5 mg**  
CBD per stick

1 stick = 30 ml per stick x density (1) x Cannabinoid concentration

### Cannabinoids Test

SHIMADZU INTEGRATED UPLC-PDA  
 GSL SOP 400

Cannabinoids	LOQ	weight(%)	mg/g	mg/stick
D9-THC	10 PPM	<b>0.044%</b>	<b>0.436</b>	<b>13.1</b>
THCA	10 PPM	N/D	N/D	N/D
CBD	10 PPM	<b>1.048%</b>	<b>10.484</b>	<b>314.5</b>
CBDA	20 PPM	N/D	N/D	N/D
CBDV	20 PPM	N/D	N/D	N/D
CBC	10 PPM	<b>0.039%</b>	<b>0.388</b>	<b>11.6</b>
CBN	10 PPM	N/D	N/D	N/D
CBG	10 PPM	N/D	N/D	N/D
CBGA	20 PPM	N/D	N/D	N/D
D8-THC	10 PPM	N/D	N/D	N/D
THCV	10 PPM	N/D	N/D	N/D
<b>TOTAL D9-THC</b>		<b>0.044%</b>	<b>0.044%</b>	<b>13.1</b>
<b>TOTAL CBD*</b>		<b>1.048%</b>	<b>10.484</b>	<b>314.5</b>
<b>TOTAL CANNABINOIDS</b>		<b>1.131%</b>	<b>11.308</b>	<b>339.2</b>



Reporting Limit 10 ppm  
 \*Total CBD = CBD + CBDA x 0.877  
 N/D - Not Detected, B/LOQ - Below Limit of Quantification

Dr. Andrew Hall, Ph.D., Chief Scientific Officer

Ben Witten, MS, MT., Lab Director

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### TERPENES: TOTAL (0.447%)

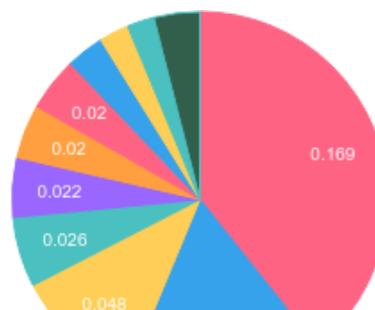
Headspace GCMS - Shimadzu GCMS QP2020 with HS20

GSL SOP 404  
 Prepared: 03/06/2020 17:49:24

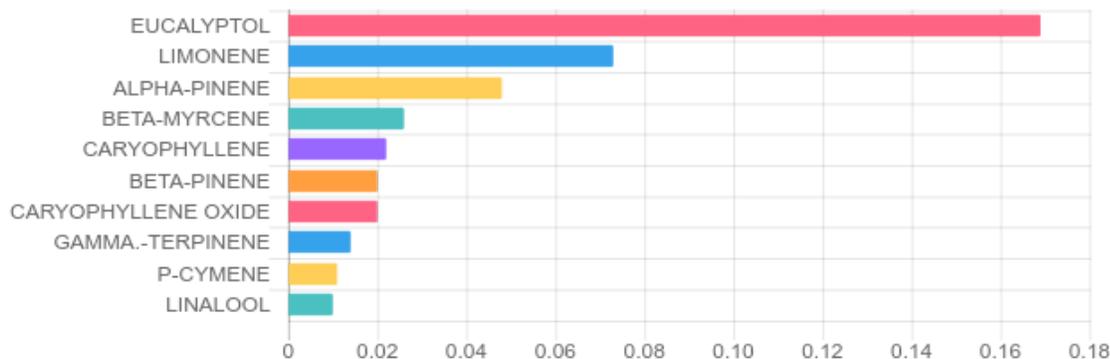
Terpene	Results (%)	LOQ (%)	LOD (%)
3-CARENE	B/LOQ	0.0067%	0.0063%
ALPHA-PINENE	0.048%	0.0067%	0.0063%
ALPHA-TERPINENE	0.009%	0.0067%	0.0063%
BETA-MYRCENE	0.026%	0.0067%	0.0063%
BETA-PINENE	0.020%	0.0067%	0.0063%
CAMPHENE	0.008%	0.0067%	0.0063%
CARYOPHYLLENE	0.022%	0.0067%	0.0063%
CARYOPHYLLENE OXIDE	0.020%	0.0067%	0.0063%
EUCALYPTOL	0.169%	0.0067%	0.0063%
GAMMA.-TERPINENE	0.014%	0.0067%	0.0016%
GUAIOL	B/LOQ	0.0067%	0.0063%
HUMULENE	B/LOQ	0.0067%	0.0063%
LIMONENE	0.073%	0.0067%	0.0063%
LINALOOL	0.010%	0.0067%	0.0063%

Terpene	Results (%)	LOQ (%)	LOD (%)
P-CYMENE	0.011%	0.0067%	0.0063%
TERPINOLENE	B/LOQ	0.0067%	0.0063%

### Terpenes Breakdown



### Top Terpenes Results:



### Tested for but not present:

TRANS-BETA-OCIMENE, CIS-BETA-OCIMENE, ISOPULEGOL, GERANIOL, CIS-NEROLIDOL, TRANS-NEROLIDOL, ALPHA-BISBOLOL

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### PESTICIDE ANALYSIS:

GSL SOP 401

PREPARED: 03/06/2020 17:27:38

GCMS-MS - Shimadzu GCMS-TQ8040

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
CAPTAN	3.000	N/D	0.003	0.001
CHLORDANE	0.100	N/D	0.003	0.001
CHLORFENAPYR	0.100	N/D	0.003	0.001
COUMAPHOS	0.100	N/D	0.003	0.001
CYFLUTHRIN	1.000	N/D	0.003	0.001

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
CYPERMETHRIN	1.000	N/D	0.003	0.001
FIPRONIL	0.100	N/D	0.003	0.001
FLUDIOXONIL	3.000	N/D	0.003	0.001
PENTACHLORONITROBENZENE	0.200	N/D	0.003	0.001

LCMS-MS - Shimadzu LCMS-8060

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
ABAMECTIN B1A	0.300	N/D	0.005	0.001
ACEPHATE	3.000	N/D	0.001	0.001
ACEQUINOCYL	2.000	N/D	0.001	0.001
ACETAMIPRID	3.000	N/D	0.005	0.001
ALDICARB	0.100	N/D	0.005	0.001
AZOXYSTROBIN	3.000	N/D	0.001	0.001
BIFENAZATE	3.000	N/D	0.005	0.001
BIFENTHRIN	0.500	N/D	0.005	0.001
BOSCALID	3.000	N/D	0.005	0.001
CARBARYL	0.500	N/D	0.003	0.001
CARBOFURAN	0.100	N/D	0.001	0.001
CHLORANTRANILIPROLE	3.000	N/D	0.005	0.005
CHLORMEQUAT CHLORIDE	3.000	N/D	0.025	0.025
CHLORPYRIFOS	0.100	N/D	0.001	0.001
CLOFENTEZINE	0.500	N/D	0.001	0.001
DAMINOZIDE	0.100	N/D	0.005	0.001
DIAZINON	0.200	N/D	0.001	0.001
DICHLORVOS	0.100	N/D	0.005	0.001
DIMETHOATE	0.100	N/D	0.001	0.001
DIMETHOMORPH	3.000	N/D	0.005	0.001
ETHOPROPHOS	0.100	N/D	0.001	0.001
ETOFENPROX	0.100	N/D	0.001	0.001
ETOXAZOLE	1.500	N/D	0.010	0.005
FENHEXAMID	3.000	N/D	0.005	0.001
FENOXYCARB	0.100	N/D	0.005	0.001
FENPYROXIMATE	2.000	N/D	0.001	0.001
FLONICAMID	2.000	N/D	0.025	0.010
HEXYTHIAZOX	2.000	N/D	0.005	0.001
IMAZALIL	0.100	N/D	0.005	0.001

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
IMIDACLOPRID	3.000	N/D	0.005	0.001
KRESOXIM-METHYL	1.000	N/D	0.010	0.005
MALATHION	2.000	N/D	0.005	0.001
METALAXYL	3.000	N/D	0.001	0.001
METHIOCARB	0.100	N/D	0.005	0.001
METHOMYL	0.100	N/D	0.001	0.001
MEVINPHOS	0.100	N/D	0.001	0.001
MYCLOBUTANIL	3.000	N/D	0.005	0.001
NALED	0.500	N/D	0.005	0.001
OXAMYL	0.500	N/D	0.001	0.001
PACLOBUTRAZOL	0.100	N/D	0.005	0.001
PERMETHRINS	1.000	N/D	0.005	0.001
PHOSMET	0.200	N/D	0.005	0.001
PIPERONYL BUTOXIDE	3.000	N/D	0.001	0.001
PRALLETHRIN	0.400	N/D	0.005	0.005
PROPICONAZOLE	1.000	N/D	0.010	0.005
PROPOXUR	0.100	N/D	0.001	0.001
PYRETHRINS (PYRETHRIN I)	1.000	N/D	0.005	0.005
PYRIDABEN	3.000	N/D	0.005	0.001
SPINETORAM	3.000	N/D	0.001	0.001
SPINOSAD (SPINOSYN A)	3.000	N/D	0.001	0.001
SPINOSAD (SPINOSYN D)	3.000	N/D	0.001	0.001
SPIROMESIFEN	3.000	N/D	0.005	0.001
SPIROTETRAMAT	3.000	N/D	0.001	0.001
SPIROXAMINE	0.100	N/D	0.001	0.001
TEBUCONAZOLE	1.000	N/D	0.005	0.001
THIACLOPRID	0.100	N/D	0.001	0.001
THIAMETHOXAM	1.000	N/D	0.001	0.001
TRIFLOXYSTROBIN	3.000	N/D	0.001	0.001

N/D = Not Detected, A/LOQ = Above LOQ Level, B/LOQ = Below LOQ Level, B/LOD = Below LOD Level

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### RESIDUAL SOLVENTS:

Headspace GCMS - Shimadzu GCMS QP2020 with HS20

GSL SOP 405

Residual Solvent	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
ACETONE	5,000	N/D	140	20
ACETONITRILE	410	N/D	25	1
BENZENE	1	N/D	1	0.5
BUTANE	5,000	N/D	50	10
CHLOROFORM	1	N/D	1	0.5
DICHLOROETHANE	1	N/D	1	0.5
DICHLOROMETHANE	1	N/D	1	0.5
ETHANOL	5,000	144	140	20
ETHYL ACETATE	5,000	N/D	140	20
ETHYL ETHER	5,000	N/D	140	20
ISOPROPYL ALCOHOL	5,000	B/LOQ	140	20
METHANOL	3,000	129	100	20
N-HEPTANE	5,000	N/D	140	20
N-HEXANE	290	N/D	18	10
PENTANE	5,000	N/D	140	20
PROPANE	5,000	N/D	20	1
TOLUENE	890	N/D	53	1
TRICHLOROETHENE	1	N/D	0	0
XYLENES	2,170	N/D	130	20

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### Microbial Analysis:

**Microbial Analysis** GSL SOP 406

**Uploaded:** 03/16/2020 17:32:20

PCR - Agilent AriaMX

Test	Test Method Used	Device Used	LOD	Allowable Criteria	Actual Result	Pass/Fail
YEAST AND MOLD	USP 61/62†	ARIAMX PCR	363.05518 CFU/G**	1,000	BELOW THRESHOLD	PASS
PATHOGENIC E.COLI*	USP 61/62†	ARIAMX PCR	2 COPIES OF DNA	PRESENCE / ABSENT	BELOW LOD	PASS
STEC E.COLI*	USP 61/62†	ARIAMX PCR	2 COPIES OF DNA	PRESENCE / ABSENT	BELOW LOD	PASS
SALMONELLA*	USP 61/62†	ARIAMX PCR	5 COPIES OF DNA	PRESENCE / ABSENT	BELOW LOD	PASS

† USP 61 (enumeration of bacteria TAC, TYM, and ENT/Coliform), USP 62 (identifying specific species E.coli Aspergillus etc)

\* STEC and Salmonella run as Multiplex

\*\* CFU/g Calculation based on Select Category Type Gummy MIP/Extract Flower matrix

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### Mycotoxin Analysis:

LC-MS - Shimadzu LCMS-8060  
GSL SOP 401

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Analyte	Action Lvl (ppb)	Results (ppb)
AFLATOXIN B1	20	N/D
AFLATOXIN B2	20	N/D
AFLATOXIN G1	20	N/D
AFLATOXIN G2	20	N/D
OCHRATOXIN A	20	N/D

LOQ is 4ppb, LOD is 1ppb

### Moisture Analysis:

Shimadzu MOC63U Moisture Balance - GSL SOP 411

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#### Moisture %

87.8%

### Heavy Metals Analysis:

ICP-MS - Shimadzu ICPMS-2030  
GSL SOP 403

Uploaded: 03/16/2020 17:32:20

Metal	Action Level (ppb)	Result (ppb)
ARSENIC (AS)	200	B/LOQ
CADMIUM (CD)	200	B/LOQ
MERCURY (HG)	100	B/LOQ
LEAD (PB)	500	B/LOQ

Lower Limit of Quantitation (LOQ) is 75 ppb

### Water Activity:

HD-3A Water Activity Meter - GSL SOP 407

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#### Water

0.97

### Filth and Foreign Materials Analysis:

Microscope - Amscope Simul-Focal Trinocular Stereo Zoom Microscope - GSL SOP 409

Uploaded: 03/16/2020 17:32:20

Pass: No Foreign Materials Detected

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