

## SUMMARY OF ANALYSIS (SAMPLE ID: SA26294)

<b>Testing Location:</b> OKC 3680 E. I-240 Service Rd. Oklahoma City, OK 73135 License: LAAA-4Y4X-Z72Z	<b>Customer ID:</b> 32 CBD Plus USA 420 N Pennsylvania Ave Oklahoma City, OK 73107 License: Not Entered or N/A	<b>Order ID:</b> OR8179 <b>Lot Number:</b> Bin <b>Batch Number:</b> Not Entered	<b>Sample Type:</b> Primary <b>Matrix:</b> Industrial Hemp <b>Mass:</b> 5g <b>Date Collected:</b> 04/27/2020 <b>Date Received:</b> 04/27/2020
<b>Cultivar (Strain) or Sample Description:</b> Hemp Flower (Trim) - Twister			<b>Date Completed:</b> 04/29/2020

\*This page is simply a summary of the analysis performed. For analytical details, please consult the individual Certificate(s) of Analysis for each of the specific test(s) performed.

\*For Oklahoma, with the new OMMA rules to be effective April 1, 2020, limits on moisture are proposed at 15% and water activity at 0.65aw.

<b>Moisture Content (%)</b> 12.2	<b>PASS/FAIL</b> PASS	<b>Water Activity (aw)</b> 0.43 @ 21.1°C	<b>PASS/FAIL</b> PASS
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<b>Cannabinoids (Top 3)</b>	<b>(%)</b>	<b>mg/g</b>
CBDa	23.5	235
THCa	0.887	9
CBD	0.491	5
TOTAL CBD	21.1	211
TOTAL THC	0.828	8
TOTAL CANNABINOIDS	25.6	256

<b>Terpenes (Top 5)</b>	<b>(%)</b>	<b>µg/g</b>
β-Caryophyllene	0.100	999
β-Myrcene	0.098	978
α-Bisabolol	0.043	434
α-Humulene	0.042	422
Caryophyllene oxide	0.028	283
TOTAL TERPENES	0.434	4339

<b>Contaminants</b>	<b>PASS/FAIL</b>
Heavy Metals:	PASS
Microbiology:	PASS
Mycotoxins:	PASS
Pesticides:	PASS
Visual Inspection:	PASS



Scan the QR code to verify results.

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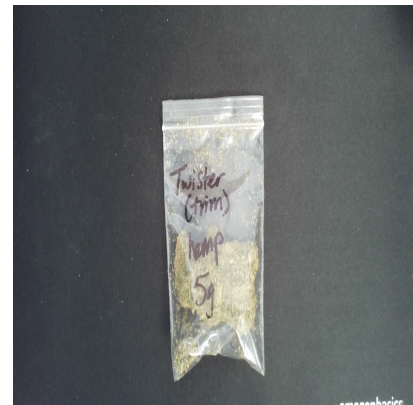
## CERTIFICATE OF ANALYSIS (SAMPLE ID: SA26294)

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### CANNABINOID (POTENCY) PROFILE

**Analysis Date/Time:** 04/28/2020 1140      **Method:** HPLC/DAD      **Moisture Content (%):** 12.2  
**Analyst:** WW      **Instrument:** Agilent 1100      **Water Activity (aw):** 0.428 @ 21.07Å°C

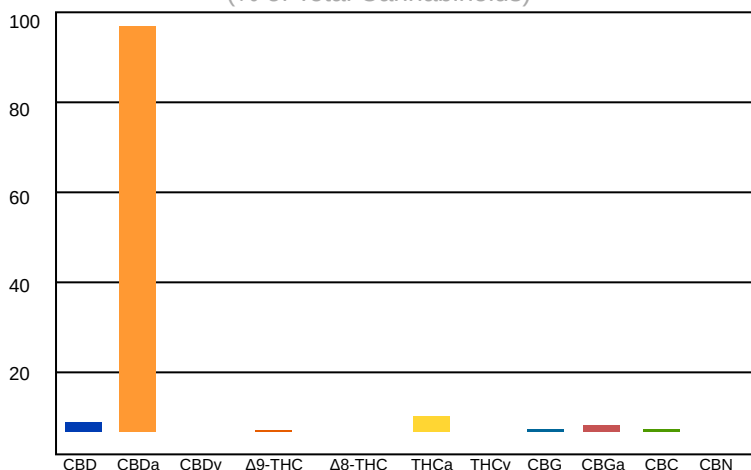
<u>Cannabinoid</u>	<u>Result (%)</u>	<u>Result (mg/g)</u>	<u>Reporting Limit (mg/g)</u>	<u>Result (mg/mL)</u>	<u>Per Unit (mg)</u>
CBD	0.491	4.91	0.0495	-	5
CBDa	23.5	235	0.0495	-	235
CBDv	-	-	0.0495	-	-
Δ9-THC	0.0506	0.506	0.0495	-	0.506
Δ8-THC	0.00719	0.0719	0.0495	-	0.0719
THCa	0.887	8.87	0.0495	-	9
THCv	-	-	0.0495	-	-
CBC	0.134	1.34	0.0495	-	1.34
CBG	0.127	1.27	0.0495	-	1.27
CBGa	0.365	3.65	0.0495	-	4
CBN	-	-	0.0495	-	-
<b>TOTAL</b>	<b>25.6</b>	<b>256</b>			<b>256</b>
<b>TOTAL THC</b>	<b>0.828</b>	<b>8.28</b>			<b>8</b>
<b>TOTAL CBD</b>	<b>21.1</b>	<b>211</b>			<b>211</b>



**UNIT MASS (g): 1**

"-" Not detected above RL.

### Cannabinoid Distribution (% of Total Cannabinoids)



*Deviations from standard operating procedure: None*

*Recoveries for all analyte standards: 90-110%  
 Replicate Uncertainties: <5% RSD, <20% RPD  
 Sample/Reagent Blanks: <RL for all analytes*

Values for plant matter are adjusted for moisture content.

Total THC = (THCa x 0.877) + Δ9-THC  
 Total CBD = (CBDa x 0.877) + CBD

Percentage results are reported by mass.  
 mg/g results are reported as mass component per mass material.

*Abbreviations:* UV - Ultraviolet, HPLC - High Pressure Liquid Chromatography, RL - Reporting Limit, RPD - Relative Percent Difference, RSD - Relative Standard Deviation

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## TERPENOID PROFILE

**Analysis Date/Time:** 04/28/2020 1140      **Method:** HS/GC/FID (Internal Method-002)      **Deviations from SOP:**  
**Analyst:** DJ      **Instrument:** Agilent 6890      None

<u>Terpene</u>	<u>Result (µg/g)</u>	<u>Result (%)</u>	
α-Bisabolol	434	0.0434	■
Camphene	-	-	
δ-3-Carene	-	-	
β-Caryophyllene	999	0.0999	■
Caryophyllene oxide	283	0.0283	■
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	64	0.00642	■
Guaiol	213	0.0213	■
α-Humulene	422	0.0422	■
Isopulegol	-	-	
d-Limonene	-	-	
Linalool	273	0.0273	■
β-Myrcene	978	0.0978	■
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	-	-	
β-Ocimene	213	0.0213	■
α-Pinene	213	0.0213	■
β-Pinene	247	0.0247	■
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	-	-	
<b>TOTAL</b>	<b>4339</b>	<b>0.434</b>	



*Abbreviations:* HS - Headspace, GC - Gas Chromatography, MS - Mass Spectrometry, RL - Reporting Limit

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**Reporting Limit (µg/g): 1.98**

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## PESTICIDES PROFILE

**Analysis Date/Time:** 04/28/2020 1140  
**Analyst:** DJ

**Method:** LC/MS/MS  
**Instrument:** Waters Acquity/TQD

**Deviations from SOP:**  
None

<u>Pesticide</u>	<u>Result (µg/g)</u>	<u>Action Level (µg/g)</u>
Abamectin (71751-41-2)	-	0.5
Azoxystrobin (131860-33-8)	-	0.5
Bifenazate* (149877-41-8)	-	0.5
Etoxazole (153233-91-1)	-	0.5
Imazalil (35554-44-0)	-	0.5
Imidacloprid (138261-41-3)	-	0.5
Malathion (121-75-5)	-	0.5
Myclobutanil (88671-89-0)	-	0.5
Permethrins* (52645-53-1)	-	0.5
Spinosad A (168316-95-8)	-	0.5
Spinosad D (168316-95-8)	-	0.5
Spiromesifen (283594-90-1)	-	0.5
Spirotetramat (203313-25-1)	-	0.5
Tebuconazole (80443-41-0)	-	0.5

### Color Key

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (µg/g)**  
1/2 of AL

"-" not detected above reporting limit

"\*" analyzed by GC/MS (all others analyzed by LC/MS/MS)

Permethrins measured as the cumulative residue of the *cis*- and *trans*-permethrin isomers.



**Abbreviations:** LC - Liquid Chromatography, GC - Gas Chromatography, MS - Mass Spectrometry, RL - Reporting Limit, AL - Action Level, CAS - Chemical Abstract Services

<u>Pesticide</u>	<u>Synonym(s)</u>	<u>Pesticide</u>	<u>Synonym(s)</u>	<u>Pesticide</u>	<u>Synonym(s)</u>
Cyfluthrin	Baythroid	Myclobutanil	Sythane	Propiconazole	Tilt
DDVP	Dichlorvos	Naled	Dibrom	Propoxur	Baygon
Ethoprophos	Prophos	Phosmet	Imidan		

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**MYCOTOXIN PROFILE**

**Analysis Date/Time:** 04/28/2020 1140  
**Analyst:** DJ

**Method:** LC/MS/MS  
**Instrument:** Waters Acquity/TQD

**Deviations from SOP:**  
None

<u>Mycotoxin</u>	<u>Result</u> (µg/kg)	<u>Action Level</u> (µg/kg)
Aflatoxin B1	-	20
Aflatoxin B2	-	20
Aflatoxin G1	-	20
Aflatoxin G2	-	20
Ochratoxin A	-	20



*Abbreviations:* EC - Escherichia Coli, CFU - Colony-Forming Unit, RL - Reporting Limit, AL - Action Level

**Color Key**

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (CFU/g)**  
1

"-" not detected above reporting limit

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**HEAVY METAL PROFILE**

**Analysis Date/Time:** 04/28/2020 1140      **Method:** ICP/MS      **Deviations from SOP:**  
**Analyst:** CC      **Instrument:** PerkinElmer Elan 9000      None

<u>Heavy Metal</u>	<u>Result (µg/kg)</u>	<u>Action Level (µg/kg)</u>
Arsenic (As)	-	400
Cadmium (Cd)	-	440
Lead (Pb)	-	1000
Mercury (Hg)	-	200



*Abbreviations:* ICP - Inductively-Coupled Plasma, OES - Optical Emission Spectroscopy, MS - Mass Spectroscopy, RL - Reporting Limit, AL - Action Level

**Color Key**

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (µg/kg)**  
50

"-" not detected above reporting limit

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**MICROBIOLOGICAL PROFILE**

**Analysis Date/Time:** 04/28/2020 1140      **Method:** Hardy Diagnostics CompactDry      **Deviations from SOP:**  
**Analyst:** DJ      **Instrument:** Thermo Incubator      None

<u>Bacteria/Microbe</u>	<u>Result (CFU/g)</u>	<u>Action Level (CFU/g)</u>
Aerobic Plate Count, Total	TNTC	-
Escherichia Coli (E. Coli)	Absent	1
Mold/Yeast	Absent	10000
Salmonella spp.	Absent	1
Staphylococcus Aureus	Absent	1



*Abbreviations:* EC - Escherichia Coli, CFU - Colony-Forming Unit, RL - Reporting Limit, AL - Action Level, TNTC - Too Numerous To Count, NT - Not Tested  
Absent - Not Detected Above RL, Present - Detected Above RL

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1/2 AL < RESULT < AL
RESULT > AL

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1

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