



CERTIFICATE OF ANALYSIS

Sample Name: Premium CBD Dog Treats
 Steep Hill ID: HI76766
 Batch ID: 2593100
 State ID:
 Sample Type: Edible
 Date Received: 11/11/2019
 Date Reported: 11/13/2019
 Pkg. Mass: 3.9 g
 # of Servings: 1

Customer: Himiko Organics LLC
 4348 Waiialae ave 924
 Honolulu, HI 96816

OVERALL BATCH SUMMARY: N/A

Residual Pesticides	Microbial Impurities	Mycotoxins	Heavy Metals	Moisture	Residual Solvents	Foreign Material
NT	NT	NT	NT	NT	NT	NT

Cannabinoid Results – Standard Potency 11/13/2019

Standard potency analysis utilizing Ultra High Performance Liquid Chromatography (UHPLC; HI-SOP-024)

Analyte	%	mg/g	mg/pkg	mg/serv	LOD mg/g	LOQ mg/g
CBD	0.048	0.48	1.90	1.90	0.0100	0.0105
CBDA	ND	ND	ND	ND	0.0100	0.0180
CBG	ND	ND	ND	ND	0.0100	0.0115
CBN	ND	ND	ND	ND	0.0100	0.0100
THC	ND	ND	ND	ND	0.0100	0.0100
THCA	ND	ND	ND	ND	0.0100	0.023
Total	0.048	0.48	1.90	1.90		

Total THC	Total CBD
Not Detected	0.048 %
Not Detected	0.48 mg/g
Not Detected	1.90 mg/pkg
Not Detected	1.90 mg/serv

Total THC = [THCA x 0.877] + [THC]
 Total CBD = [CBDA x 0.877] + [CBD]

Cannabinoid Results – Extended Cannabinoids NT

Extended cannabinoid analysis utilizing Ultra High Performance Liquid Chromatography (UHPLC; HI-SOP-024)

Analyte	%	mg/g	mg/pkg	mg/serv	LOD mg/g	LOQ mg/g
CBC	NT	NT	NT	NT	NT	NT
CBD	NT	NT	NT	NT	NT	NT
CBDA	NT	NT	NT	NT	NT	NT
CBDV	NT	NT	NT	NT	NT	NT
CBDVA	NT	NT	NT	NT	NT	NT
CBG	NT	NT	NT	NT	NT	NT
CBN	NT	NT	NT	NT	NT	NT
THC	NT	NT	NT	NT	NT	NT
Δ8-THC	NT	NT	NT	NT	NT	NT
THCA	NT	NT	NT	NT	NT	NT
THCV	NT	NT	NT	NT	NT	NT
THCVA	NT	NT	NT	NT	NT	NT
Total	NT	NT	NT	NT	NT	NT

LOD: Limit of Detection
 LOQ: Limit of Quantitation
 NT: Not Tested
 ND: Not Detected



Nelson Lazaga, Ph.D
 Laboratory Director
 Date: 11/13/2019

The following results relate only to the samples tested and for the specific tests conducted. Steep Hill grants permission to reproduce this document in full only.



CERTIFICATE OF ANALYSIS

Residual Pesticides Results

NT

 Residual pesticide analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MSMS; HI-SOP-025) - Limit units: $\mu\text{g/g} = \text{ppm}$

Analyte	Pass/Fail	$\mu\text{g/g}$	Limit	LOD $\mu\text{g/g}$	LOQ $\mu\text{g/g}$	Analyte	Pass/Fail	$\mu\text{g/g}$	Limit	LOD $\mu\text{g/g}$	LOQ $\mu\text{g/g}$
Abamectin B1a	NT	NT	NT	NT	NT	Hexythiazox	NT	NT	NT	NT	NT
Acephate	NT	NT	NT	NT	NT	Imazalil	NT	NT	NT	NT	NT
Acequinocyl	NT	NT	NT	NT	NT	Imidacloprid	NT	NT	NT	NT	NT
Acetamiprid	NT	NT	NT	NT	NT	Kresoxim-methyl	NT	NT	NT	NT	NT
Aldicarb	NT	NT	NT	NT	NT	Malathion	NT	NT	NT	NT	NT
Azoxystrobin	NT	NT	NT	NT	NT	Metalaxyl	NT	NT	NT	NT	NT
Bifenazate	NT	NT	NT	NT	NT	Methiocarb	NT	NT	NT	NT	NT
Bifenthrin	NT	NT	NT	NT	NT	Methomyl	NT	NT	NT	NT	NT
Boscalid	NT	NT	NT	NT	NT	Methyl Parathion	NT	NT	NT	NT	NT
Carbaryl	NT	NT	NT	NT	NT	MGK-264	NT	NT	NT	NT	NT
Carbofuran	NT	NT	NT	NT	NT	Myclobutanil	NT	NT	NT	NT	NT
Chlorantraniliprole	NT	NT	NT	NT	NT	Naled	NT	NT	NT	NT	NT
Chlorfenapyr	NT	NT	NT	NT	NT	Oxamyl	NT	NT	NT	NT	NT
Chlorpyrifos	NT	NT	NT	NT	NT	Paclbutrazol	NT	NT	NT	NT	NT
Clofentezine	NT	NT	NT	NT	NT	Permethrin	NT	NT	NT	NT	NT
Cyfluthrin	NT	NT	NT	NT	NT	Phosmet	NT	NT	NT	NT	NT
Cypermethrin	NT	NT	NT	NT	NT	Piperonyl Butoxide	NT	NT	NT	NT	NT
Diazinon	NT	NT	NT	NT	NT	Prallethrin	NT	NT	NT	NT	NT
Dichlorvos	NT	NT	NT	NT	NT	Propiconazole	NT	NT	NT	NT	NT
Dimethoate	NT	NT	NT	NT	NT	Propoxur	NT	NT	NT	NT	NT
Ethoprophos	NT	NT	NT	NT	NT	Pyrethrins	NT	NT	NT	NT	NT
Etofenprox	NT	NT	NT	NT	NT	Pyridaben	NT	NT	NT	NT	NT
Etoxazole	NT	NT	NT	NT	NT	Spinosad	NT	NT	NT	NT	NT
Fenpyroximate	NT	NT	NT	NT	NT	Spiromesifen	NT	NT	NT	NT	NT
Fipronil	NT	NT	NT	NT	NT	Spirotetramat	NT	NT	NT	NT	NT
Flonicamid	NT	NT	NT	NT	NT	Tebuconazole	NT	NT	NT	NT	NT
Fludioxonil	NT	NT	NT	NT	NT	Thiacloprid	NT	NT	NT	NT	NT

Mycotoxin Results

NT

 Mycotoxin analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MS; HI-SOP-025) - Limit units: $\mu\text{g/kg} = \text{ppb}$

Analyte	Pass/Fail	$\mu\text{g/kg}$	Limit	LOD $\mu\text{g/kg}$	LOQ $\mu\text{g/kg}$
Aflatoxin B1	NT	NT	NT	NT	NT
Aflatoxin B2	NT	NT	NT	NT	NT
Aflatoxin G1	NT	NT	NT	NT	NT
Aflatoxin G2	NT	NT	NT	NT	NT
Ochratoxin A	NT	NT	NT	NT	NT
Total Aflatoxins	NT	NT	NT	NT	NT

Heavy Metals Results

NT

 Heavy metals analysis utilizing Atomic Absorption Spectroscopy (AAS; HI-SOP-015) - Limit units: $\mu\text{g/g} = \text{ppm}$

Analyte	Pass/Fail	$\mu\text{g/g}$	Limit	LOD $\mu\text{g/g}$	LOQ $\mu\text{g/g}$
Arsenic	NT	NT	NT	NT	NT
Cadmium	NT	NT	NT	NT	NT
Lead	NT	NT	NT	NT	NT
Mercury	NT	NT	NT	NT	NT

Residual Solvents Results

NT

 Residual solvents and processing chemicals analysis utilizing Headspace Gas Chromatography – Mass Spectrometry (HS-GC-MS; HI-SOP-010) - Limit units: $\mu\text{g/g} = \text{ppm}$

Analyte	Pass/Fail	$\mu\text{g/g}$	Limit	LOD $\mu\text{g/g}$	LOQ $\mu\text{g/g}$	Analyte	Pass/Fail	$\mu\text{g/g}$	Limit	LOD $\mu\text{g/g}$	LOQ $\mu\text{g/g}$
Acetone	NT	NT	NT	NT	NT	Isobutane	NT	NT	NT	NT	NT
Acetonitrile	NT	NT	NT	NT	NT	Isopropanol	NT	NT	NT	NT	NT
Benzene	NT	NT	NT	NT	NT	Methanol	NT	NT	NT	NT	NT
Butanes	NT	NT	NT	NT	NT	n-Pentane	NT	NT	NT	NT	NT
Chloroform	NT	NT	NT	NT	NT	Tetrahydrofuran	NT	NT	NT	NT	NT
Ethanol	NT	NT	NT	NT	NT	Toluene	NT	NT	NT	NT	NT
Heptanes	NT	NT	NT	NT	NT	Total Xylenes	NT	NT	NT	NT	NT
n-Hexane	NT	NT	NT	NT	NT						



 Nelson Lazaga, Ph.D
 Laboratory Director
 Date: 11/13/2019

The following results relate only to the samples tested and for the specific tests conducted. Steep Hill grants permission to reproduce this document in full only.



CERTIFICATE OF ANALYSIS

Terpenoid Results - Standard Terpenes NT

Standard terpene analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MS; HI-SOP-024)

Analyte	%	mg/g	LOD mg/g	LOQ mg/g
Caryophyllene Oxide	NT	NT	NT	NT
β-Caryophyllene	NT	NT	NT	NT
Citronellol	NT	NT	NT	NT
α-Humulene	NT	NT	NT	NT
Linalool	NT	NT	NT	NT
β-Myrcene	NT	NT	NT	NT
Total	NT	NT	NT	NT

Terpenoid Results - Extended Terpenes NT

Extended terpene analysis utilizing Gas Chromatography – Mass Spectrometry (GC-MS)

Analyte	%	mg/g	LOD mg/g	LOQ mg/g
α-Bisabolol	NT	NT	NT	NT
Camphene	NT	NT	NT	NT
3-Carene	NT	NT	NT	NT
Caryophyllene Oxide	NT	NT	NT	NT
β-Caryophyllene	NT	NT	NT	NT
Eucalyptol	NT	NT	NT	NT
Geraniol	NT	NT	NT	NT
Guaiol	NT	NT	NT	NT
Humulene	NT	NT	NT	NT
p-Isopropyltoluene	NT	NT	NT	NT
Isopulegol	NT	NT	NT	NT
Limonene	NT	NT	NT	NT
Linalool	NT	NT	NT	NT
β-Myrcene	NT	NT	NT	NT
Nerolidol	NT	NT	NT	NT
Ocimene	NT	NT	NT	NT
α-Pinene	NT	NT	NT	NT
β-Pinene	NT	NT	NT	NT
α-Terpinene	NT	NT	NT	NT
γ-Terpinene	NT	NT	NT	NT
Terpinolene	NT	NT	NT	NT
Total	NT	NT	NT	NT

Microbial Impurities Results NT

 Microbiological screening utilizing PathogenDx and TEMPO (HI-SOP-008 + HI-SOP-007) - **Limit units: CFU/g**

Analyte	Pass/Fail	Result	Limit	LOQ
Aspergillus flavus		NT	NT	NT
Aspergillus fumigatus		NT	NT	NT
Aspergillus niger		NT	NT	NT
Salmonella		NT	NT	NT
Aerobic		NT	NT	NT
Coliform		NT	NT	NT
Enterobacteria		NT	NT	NT
General E. coli		NT	NT	NT
Yeast & Mold		NT	NT	NT

Moisture Results NT

 Moisture content analysis utilizing Moisture Balance (MB; HI-SOP-033) - **Limit units: %**

Analyte	Pass/Fail	%	Limit
Moisture		NT	NT

Foreign Material Results NT

Foreign material analysis utilizing visual inspection with 10x magnification (HI-SOP-016)

Analyte	Pass/Fail
Visual Inspection	NT

LOD: Limit of Detection
 LOQ: Limit of Quantitation
 NT: Not Tested
 ND: Not Detected



 Nelson Lazaga, Ph.D
 Laboratory Director
 Date: 11/13/2019

The following results relate only to the samples tested and for the specific tests conducted. Steep Hill grants permission to reproduce this document in full only.