



Certificate of Analysis

Customer Name: Lief Holdings
Address: Chatsworth, CA 91311
Sample Name: MUSCLE RUB SALVE
Product Code: N/A
Batch/Lot#: 0232
MQL Accession #: 190812-0301

Tested By: Micro Quality Labs, Inc.
Address: 3125 N. Damon Way, Burbank, CA 91505
P: (818)845-0070 F: (818)845-0030
PO#: N/A
Sample Description: BULK
Rush: N/A
Received Date: 08/07/19

Moisture Test Results 08/20/19

Analysis performed per USP 42 method

	Specifications	%
Moisture	Report	0.12%

Cannabinoid Test Results 08/20/19

Cannabinoid analysis utilizing Ultra Performance Liquid Chromatography, MQLTM-1270 by UPLC

	mg/g	%	LOD µg/g	LOQ µg/g
CBDVA			0.5 ppm	1 ppm
CBDV			0.5 ppm	1 ppm
CBDA			0.5 ppm	1 ppm
CBGA			0.5 ppm	1 ppm
CBG			0.5 ppm	1 ppm
CBD	384 mg/serving		0.5 ppm	1 ppm
THCV			0.5 ppm	1 ppm
THCVA			0.5 ppm	1 ppm
CBN			0.5 ppm	1 ppm
CBNA				
Δ9 - THC	ND (NMT 0.02%)		0.5 ppm	1 ppm
Δ8 - THC			0.5 ppm	1 ppm
CBL			0.5 ppm	1 ppm
CBC			0.5 ppm	1 ppm
THCA-A			0.5 ppm	1 ppm
CBCA			0.5 ppm	1 ppm
Sum Of Cannabinoids			0.5 ppm	1 ppm
Total THC	THC FREE		0.5 ppm	1 ppm
(Δ9THC+0.877*THCa)				
Total CBD			0.5 ppm	1 ppm
(CBD+0.877*CBDA)				
	Action Limit			
THC per Unit			0.5 ppm	1 ppm
THC per Serving			0.5 ppm	1 ppm

Batch Photo



No image available

Water Activity Test Results 08/20/19

Test method utilized: MQLTM-0593

	Specifications	
Moisture	Report	0.253

Terpene Test Results N/A

Terpene analysis by GC-MS, MQLTM-1283 by GC-MS

	mg/g	%
(-)-α-Bisabolol (23089-26-1)		
Camphene (79-92-5)		
δ-3-Carene (13466-78-9)		
β-Caryophyllene (87-44-5)		
Geraniol (106-24-1)		
(-)-Guaiol (489-86-1)		
α-Humulene (6753-98-6)		
p-Isopropyltoluene (p-cymene) (99-87-6)		
(-)-Isopulegol (89-79-2)		
d-Limonene (5989-27-5)		
Linalool (78-70-6)		
β-Myrcene (123-35-3)		
Nerolidol (7212-44-4)		
Ocimene (13877-91-3)		
α-Pinene (80-56-8)		
(-)-β-Pinene (18172-67-3)		
α-Terpinene (99-86-5)		
γ-Terpinene (99-85-4)		
Terpinolene (586-62-9)		
(-)-Caryophyllene oxide (1139-30-6)		
1,8-Cineole (Eucalyptol) (470-82-6)		
Total Terpene Concentration:		

Sample Certification

California Code of Regulations Title 16 Effect Date January 16, 2019

Authority: Section 26013, Business and Professions Code.

Reference: Sections 26100, 26104 and 26110, Business and Professions Code.



Prepared By:

Kendra Hentley/Document Control Specialist
08/21/19

AUG 21 2019

Reviewed By:

Raffie Avakian/Quality Assurance Reviewer
08/21/19

AUG 21 2019

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Residual Solvents Test Results N/A

Residual Solvent analysis utilizing Gas Chromatography - Mass Spectrometry (GC-MS), USP<42> Modified [467] By GC-FID

Class I:	USP Limit	Results
1,1 Dichloroethene	8 ppm	
1,1,1 Trichloroethane	1500 ppm	
Carbon Tetrachloride	4 ppm	
Benzene	2 ppm	
1,2-Dichloroethane	5 ppm	
Class IIA:		
Methanol	3000 ppm	
Acetonitrile	410 ppm	
Dichloromethane	600 ppm	
1,2-dichloroethene	1870 ppm	
Cis-1,2-dichloroethene	900 ppm	
Tetrahydrofuran	720 ppm	
Cyclohexane	3880 ppm	
Methylcyclohexane	1180 ppm	
Toluene	380 ppm	
1,4-dioxane	890 ppm	
Chlorobenzene	360 ppm	
Ethylbenzene	1605.8 ppm	
m/p-Xylene	368.9 ppm	
o-Xylene	195.3 ppm	
Cumene	70 ppm	
Class IIB:		
Hexane	290 ppm	
1,2 Dimethoxyethane	100 ppm	
trichloroethylene	80 ppm	
Chloroform	60 ppm	
2-Hexanone	50 ppm	
Nitromethane	50 ppm	
Tetralin	200 ppm	
Pyridine	100 ppm	
Class III:		
Ethanol	800 ppm	
Acetone	62 ppm	
IPA	63 ppm	
Methyl Acetate	62 ppm	
Tert Butyl Methyl ether	62 ppm	
Tributylamine	65 ppm	
Acetic Acid	506 ppm	

Foreign Material Test Results N/A

[Test method information]

Notes

Microbiological Test Results N/A

USP 61 & USP 62

	Specification	Results
TPC	N/A	
Yeast/ Mold	N/A	
Enrichment	N/A	
Coliforms	N/A	
E.Coli	N/A	
S.Aureus	N/A	
Salmonella/ Shigella	N/A	

Sample Certification

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Kethra Hensley/Document Control Specialist

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Pesticide Test Results 08/20/19

Pesticide, Fungicide and plant growth regular analysis utilizing Gas Chromatography – Mass Spectrometry. MQLTM-0343 (USP<S61>Modified) By GC-MS

	µg/g	LOD µg/g	LOQ µg/g
Acephate	< 0.1 ppm	0.1 ppm	0.1 ppm
Alachlor	< 0.05 ppm	0.05 ppm	0.05 ppm
Aldrin and dieldrin (sum of)	< 0.05 ppm	0.05 ppm	0.05 ppm
Azinphos-ethyl	< 0.1 ppm	0.1 ppm	0.1 ppm
Azinphos-methyl	< 1 ppm	1 ppm	1 ppm
Bromide, inorganic	< 125 ppm	125 ppm	125 ppm
Bromophos-ethyl	< 0.05 ppm	0.05 ppm	0.05 ppm
Bromophos-methyl	< 0.05 ppm	0.05 ppm	0.05 ppm
Bromopropylate	< 3 ppm	3 ppm	3 ppm
Chlordane (sum of)	< 0.05 ppm	0.05 ppm	0.05 ppm
Clofenvinphos	< 0.5 ppm	0.5 ppm	0.5 ppm
Chlorpyrifos-ethyl	< 0.2 ppm	0.2 ppm	0.2 ppm
Chlorpyrifos-methyl	< 0.1 ppm	0.1 ppm	0.1 ppm
Chlorthal-dimethyl	< 0.01 ppm	0.01 ppm	0.01 ppm
Cyfluthrin (sum of)	< 0.1 ppm	0.1 ppm	0.1 ppm
λ-Cyhalothrin	< 1 ppm	1 ppm	1 ppm
Cypermethrin and isomers (sum of)	< 1 ppm	1 ppm	1 ppm
DDT (sum of)	< 1 ppm	1 ppm	1 ppm
Deltamethrin	< 0.5 ppm	0.5 ppm	0.5 ppm
Diazinon	< 0.5 ppm	0.5 ppm	0.5 ppm
Dichlofuanid	< 0.1 ppm	0.1 ppm	0.1 ppm
Dichlorvos	< 1 ppm	1 ppm	1 ppm
Dicofol	< 0.5 ppm	0.5 ppm	0.5 ppm
Dimethoate and omethoate (sum of)	< 0.1 ppm	0.1 ppm	0.1 ppm
Dithiocarbamates (expressed as CS ₂)	< 2 ppm	2 ppm	2 ppm
Endosulfan (sum of)	< 3 ppm	3 ppm	3 ppm
Endrin	< 0.05 ppm	0.05 ppm	0.05 ppm
Ethion	< 2 ppm	2 ppm	2 ppm
Etrimphos	< 0.05 ppm	0.05 ppm	0.05 ppm
Fenclorophos (sum of)	< 0.1 ppm	0.1 ppm	0.1 ppm
Fenitrothion	< 0.5 ppm	0.5 ppm	0.5 ppm
Fenpropathrin	< 0.03 ppm	0.03 ppm	0.03 ppm
Fensulfothion (sum of)	< 0.05 ppm	0.05 ppm	0.05 ppm
Fenthion (sum of)	< 0.05 ppm	0.05 ppm	0.05 ppm
Fenvalerate	< 1.5 ppm	1.5 ppm	1.5 ppm
Flucythrinate	< 0.05 ppm	0.05 ppm	0.05 ppm
t-Fluvalinate	< 0.05 ppm	0.05 ppm	0.05 ppm
Fonophos	< 0.05 ppm	0.05 ppm	0.05 ppm
Heptachlor (sum of)	< 0.05 ppm	0.05 ppm	0.05 ppm
Hexachlorbenzene	< 0.1 ppm	0.1 ppm	0.1 ppm
Hexachlorocyclohexane (sum of)	< 0.3 ppm	0.3 ppm	0.3 ppm
Lindan (γ-hexachlorocyclohexane)	< 0.6 ppm	0.6 ppm	0.6 ppm
Malathion and malaoxon (sum of)	< 1 ppm	1 ppm	1 ppm
Mecarbam	< 0.05 ppm	0.05 ppm	0.05 ppm
Methacriphos	< 0.05 ppm	0.05 ppm	0.05 ppm
Methamidophos	< 0.05 ppm	0.05 ppm	0.05 ppm
Methidathion	< 0.2 ppm	0.2 ppm	0.2 ppm
Methoxychlor	< 0.05 ppm	0.05 ppm	0.05 ppm
Mirex	< 0.01 ppm	0.01 ppm	0.01 ppm

Aflatoxin Test Results 08/21/19

Aflatoxin analysis utilizing MQLTM-1129 by LCMS
Aflatoxin Not Detected (NMT 8 ppb)

Pesticide Test Results 08/20/19

Pesticide, Fungicide and plant growth regular analysis utilizing Gas Chromatography – Mass Spectrometry. MQLTM-0343 (USP<S61>Modified) By GC-MS

	µg/g	LOD µg/g	LOQ µg/g
Monocrotophos	< 0.1 ppm	0.1 ppm	0.1 ppm
Parathion-ethyl and paraoxon-ethyl (sum of)	< 0.5 ppm	0.5 ppm	0.5 ppm
Parathion-methyl and paraoxon-methyl (sum of)	< 0.2 ppm	0.2 ppm	0.2 ppm
Pendimethalin	< 0.1 ppm	0.1 ppm	0.1 ppm
Pentachloranisole	< 0.01 ppm	0.01 ppm	0.01 ppm
Permethrin and isomers (sum of)	< 1 ppm	1 ppm	1 ppm
Phosalone	< 0.1 ppm	0.1 ppm	0.1 ppm
Phosmet	< 0.05 ppm	0.05 ppm	0.05 ppm
Piperonyl butoxide	< 3 ppm	3 ppm	3 ppm
Pirimiphos-ethyl	< 0.05 ppm	0.05 ppm	0.05 ppm
Pirimiphos-methyl (sum of)	< 4 ppm	4 ppm	4 ppm
Procymidone	< 0.1 ppm	0.1 ppm	0.1 ppm
Profenophos	< 0.1 ppm	0.1 ppm	0.1 ppm
Prothiophos	< 0.05 ppm	0.05 ppm	0.05 ppm
Pyrethrum (sum of)	< 3 ppm	3 ppm	3 ppm
Quinalphos	< 0.05 ppm	0.05 ppm	0.05 ppm
Quintozene (sum of)	< 1 ppm	1 ppm	1 ppm
S-421	< 0.02 ppm	0.02 ppm	0.02 ppm
Tecnazene	< 0.05 ppm	0.05 ppm	0.05 ppm
Tetradifon	< 0.3 ppm	0.3 ppm	0.3 ppm
Vinclozolin	< 0.4 ppm	0.4 ppm	0.4 ppm

Heavy Metal Test Results 08/21/19

Heavy metal analysis utilizing Inductively Coupled Mass Spectrometry (ICP-MS) MQLTM-0278 by ICP-MS.

	µg/g	LOD µg/g	LOQ µg/g
Lead	0.005 ppm	0.2 ppb	3 ppb
Arsenic	0.033 ppm	0.5 ppb	3 ppb
Cadmium	ND (NMT 0.003 ppm)	0.1 ppb	3 ppb
Mercury	ND (NMT 0.001 ppm)	0.07 ppb	1 ppb

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Raffie Avalos/Quality Assurance Reviewer

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Carbon Tetrachloride	4 ppm	
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1,2-Dichloroethane	5 ppm	
<u>Class IIA:</u>		
Methanol	3000 ppm	
Acetonitrile	410 ppm	
Dichloromethane	600 ppm	
1,2-dichloroethene	1870 ppm	
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Chlorobenzene	360 ppm	
Ethylbenzene	1605.8 ppm	
m/p-Xylene	368.9 ppm	
o-Xylene	195.3 ppm	
Cumene	70 ppm	
<u>Class IIB:</u>		
Hexane	290 ppm	
1,2 Dimethoxyethane	100 ppm	
trichloroethylene	80 ppm	
Chloroform	60 ppm	
2-Hexanone	50 ppm	
Nitromethane	50 ppm	
Tetralin	200 ppm	
Pyridine	100 ppm	
<u>Class III:</u>		
Ethanol	800 ppm	
Acetone	62 ppm	
IPA	63 ppm	
Methyl Acetate	62 ppm	
Tert Butyl Methyl ether	62 ppm	
Tributylamine	65 ppm	
Acetic Acid	506 ppm	

Foreign Material Test Results N/A

[Test method information]

Notes

Microbiological Test Results N/A

USP 61 & USP 62

	Specification	Results
TPC	N/A	
Yeast/ Mold	N/A	
Enrichment	N/A	
Coliforms	N/A	
E. Coli	N/A	
S. Aureus	N/A	
Salmonella/ Shigella	N/A	

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