



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794



Report Number: 22-014332/D002.R000
Report Date: 12/01/2022
ORELAP#: OR100028
Purchase Order:
Received: 11/22/22 10:59

Customer: NW Natural Goods
Product identity: HEMP- HB 0083
Client/Metric ID: .
Laboratory ID: 22-014332-0001

Summary

Potency:

Analyte per 4g	Result	Limits	Units	Status	
CBC per 4g	0.218		mg/4g		CBD-Total per Serving Size 27.1 mg/4g
CBD per 4g	27.1		mg/4g		
CBDV per 4g	0.148		mg/4g		THC-Total per Serving Size <LOQ
CBT per 4g	0.288		mg/4g		(Reported in milligrams per serving)

Residual Solvents:

All analytes passing and less than LOQ.

Pesticides:

Analyte	Result (mg/kg)	Limits (mg/kg)	Status
Multi-Residue Pesticide Profile	< LOQ for all analytes		

Metals:

Less than LOQ for all analytes.

Microbiology:

Less than LOQ for all analytes.



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Customer: NW Natural Goods

Product identity: HEMP- HB 0083

Client/Metric ID: .

Sample Date:

Laboratory ID: 22-014332-0001

Evidence of Cooling: No

Temp: 17.9

Relinquished by: hinton

Serving Size #1: 4 g

Sample Results

Potency per 4g					
Method: J AOAC 2015 V98-6 (mod) ^b		Units mg/se		Batch: 2210147	
				Analyze: 11/28/22 7:55:00 PM	
Analyte	Result	Limits	Units	LOQ	Notes
CBC per 4g	0.218		mg/4g	0.127	
CBC-A per 4g	< LOQ		mg/4g	0.127	
CBC-Total per 4g	< LOQ		mg/4g	0.238	
CBD per 4g	27.1		mg/4g	0.127	
CBD-A per 4g	< LOQ		mg/4g	0.127	
CBD-Total per 4g	27.1		mg/4g	0.238	
CBDV per 4g	0.148		mg/4g	0.127	
CBDV-A per 4g	< LOQ		mg/4g	0.127	
CBDV-Total per 4g	< LOQ		mg/4g	0.236	
CBE per 4g	< LOQ		mg/4g	0.127	
CBG per 4g	< LOQ		mg/4g	0.127	
CBG-A per 4g	< LOQ		mg/4g	0.127	
CBG-Total per 4g	< LOQ		mg/4g	0.236	
CBL per 4g	< LOQ		mg/4g	0.127	
CBL-A per 4g	< LOQ		mg/4g	0.127	
CBL-Total per 4g	< LOQ		mg/4g	0.238	
CBN per 4g	< LOQ		mg/4g	0.127	
CBT per 4g	0.288		mg/4g	0.127	
Δ8-THCV per 4g	< LOQ		mg/4g	0.127	
Δ10-THC per 4g	< LOQ		mg/4g	0.127	
Δ8-THC per 4g	< LOQ		mg/4g	0.127	
Δ9-THC per 4g	< LOQ		mg/4g	0.127	
exo-THC per 4g	< LOQ		mg/4g	0.127	
THC-A per 4g	< LOQ		mg/4g	0.127	
THC-Total per 4g	< LOQ		mg/4g	0.238	
THCV per 4g	< LOQ		mg/4g	0.127	
THCV-A per 4g	< LOQ		mg/4g	0.127	
THCV-Total per 4g	< LOQ		mg/4g	0.238	
Total Cannabinoids per 4g	27.7		mg/4g		



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Microbiology

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
E.coli	< LOQ		cfu/g	10	2210082	11/28/22 AOAC 991.14 (Petrifilm) [®]		
Total Coliforms	< LOQ		cfu/g	10	2210082	11/28/22 AOAC 991.14 (Petrifilm) [®]		
Mold (RAPID Petrifilm)	< LOQ		cfu/g	10	2210083	11/29/22 AOAC 2014.05 (RAPID) [®]		
Yeast (RAPID Petrifilm)	< LOQ		cfu/g	10	2210083	11/29/22 AOAC 2014.05 (RAPID) [®]		

Solvents Method: Residual Solvents by GC/MS[®] Units µg/g Batch 2210164 Analyze 11/30/22 09:13 AM

Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
1,4-Dioxane	< LOQ	380	100	pass		2-Butanol	< LOQ	5000	200	pass	
2-Ethoxyethanol	< LOQ	160	30.0	pass		2-Methylbutane (Isopentane)	< LOQ		200		
2-Methylpentane	< LOQ		30.0			2-Propanol (IPA)	< LOQ	5000	200	pass	
2,2-Dimethylbutane	< LOQ		30.0			2,2-Dimethylpropane (neo-pentane)	< LOQ		200		
2,3-Dimethylbutane	< LOQ		30.0			3-Methylpentane	< LOQ		30.0		
Acetone	< LOQ	5000	200	pass		Acetonitrile	< LOQ	410	100	pass	
Benzene	< LOQ	2.00	1.00	pass		Butanes (sum)	< LOQ	5000	400	pass	
Cyclohexane	< LOQ	3880	200	pass		Ethyl acetate	< LOQ	5000	200	pass	
Ethyl benzene	< LOQ		200			Ethyl ether	< LOQ	5000	200	pass	
Ethylene glycol	< LOQ	620	200	pass		Ethylene oxide	< LOQ	50.0	20.0	pass	
Hexanes (sum)	< LOQ	290	150	pass		Isopropyl acetate	< LOQ	5000	200	pass	
Isopropylbenzene (Cumene)	< LOQ	70.0	30.0	pass		m,p-Xylene	< LOQ		200		
Methanol	< LOQ	3000	200	pass		Methylene chloride	< LOQ	600	60.0	pass	
Methylpropane (Isobutane)	< LOQ		200			n-Butane	< LOQ		200		
n-Heptane	< LOQ	5000	200	pass		n-Hexane	< LOQ		30.0		
n-Pentane	< LOQ		200			o-Xylene	< LOQ		200		
Pentanes (sum)	< LOQ	5000	600	pass		Propane	< LOQ	5000	200	pass	
Tetrahydrofuran	< LOQ	720	100	pass		Toluene	< LOQ	890	100	pass	
Total Xylenes	< LOQ		400			Total Xylenes and Ethyl benzene	< LOQ	2170	600	pass	

Pesticides Method: AOAC 2007.01 & EN 15662 (mod)[®] Units mg/kg Batch 2210138 Analyze 11/29/22 12:24 PM

Analyte	Result	Limits	Status	Notes
Multi-Residue Pesticide Profile	< LOQ for all analytes			

Metals

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
Arsenic	< LOQ	0.200	mg/kg	0.0189	2210121	11/28/22 AOAC 2013.06 (mod.) [®]	pass	
Cadmium	< LOQ	0.200	mg/kg	0.0189	2210121	11/28/22 AOAC 2013.06 (mod.) [®]	pass	
Lead	< LOQ	0.500	mg/kg	0.0189	2210121	11/28/22 AOAC 2013.06 (mod.) [®]	pass	
Mercury	< LOQ	0.100	mg/kg	0.00947	2210121	11/28/22 AOAC 2013.06 (mod.) [®]	pass	



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Nutrition

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
Moisture (Loss on Drying)	18.1		g/100g	0.10	2210172	11/29/22 AOAC 925.10 (mod.) ^p		
Water Activity	0.696		Aw	0.030	2210073	11/23/22 AOAC 978.18 ^p		



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Abbreviations

Limits: Action Levels per OAR-333-007-0400, OAR-333-007-0210, OAR-333-007-0220, CCR title 16-division 42. BCC-section 5723

Limit(s) of Quantitation (LOQ): The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.

^p = ISO/IEC 17025:2017 accredited method.

Units of Measure

cfu/g = Colony forming units per gram

g = g

g/100g = Grams per 100 Grams

µg/g = Microgram per gram

mg/kg = Milligram per kilogram = parts per million (ppm)

mg/4g = Milligram per 4g

% = Percentage of sample

Aw = Water Activity

% wt = µg/g divided by 10,000

Approved Signatory

Derrick Tanner
General Manager



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Hemp & Cannabis: Usable / Extract / Finished Product
Chain of Custody Record
ORELAP ID: OR100028 ANAB ISO 17025 ID: AT-1508

NWNATURALGOODS 22-014332



ol ID: 2832 Revision: 5
Effective: 01/04/2022

Company: Northwest Natural Goods Contact: Annie Nair Address: 11791 SE HWY 212 City: Clackamas State: OR Zip Code: 97015 <input checked="" type="checkbox"/> Email Results: annienair@nwnaturalgoods.com <input type="checkbox"/> Ph: () - Name: Email: Address: City: State: Zip: Ph: () -			Analysis Requested Pesticides - OR 59 Compounds Pesticide Multi-Residue - 379 compounds Potency Residual Solvents Water Activity Moisture Micro: Yeast and Mold Micro: E. Coli and Total Coliform Heavy Metals Mycotoxins							NW Natural Goods Batch ID: Sampled by: Custom Reporting: Source Material: <input type="checkbox"/> - Ind. Hemp product <input type="checkbox"/> - Rec. Cannabis Reporting Type: <input type="checkbox"/> - Compliance <input type="checkbox"/> - R&D Report to: <input type="checkbox"/> - METRC <input type="checkbox"/> - ODA <input type="checkbox"/> - USDA <input type="checkbox"/> - Other: Turnaround time (TAT - Business Days): <input checked="" type="checkbox"/> - 5BD <input type="checkbox"/> - 3BD* <input type="checkbox"/> - 2BD* <i>*Check for availability</i>					
Lab ID	Client Sample Identification	Sample date	Pesticides - OR 59 Compounds	Pesticide Multi-Residue - 379 compounds	Potency	Residual Solvents	Water Activity	Moisture	Micro: Yeast and Mold	Micro: E. Coli and Total Coliform	Heavy Metals	Mycotoxins	Material Type †	Weight (Units)	Comments/Metric ID
	HEMP - HB 0083	11/22/22	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			80g	
Signature - Relinquished By: Annie Nair Date: 11/22/22 Time: 10:20			Signature - Received By: [Signature] Date: 11/22 Time: 10:20			Lab Use Only: <input type="checkbox"/> Shipped Via: _____ or <input type="checkbox"/> Client drop off Evidence of cooling: <input type="checkbox"/> Yes <input type="checkbox"/> No - Temp (°C): 17.9 Sample in good condition: <input type="checkbox"/> Yes <input type="checkbox"/> No Payment: <input type="checkbox"/> Cash <input type="checkbox"/> Check <input type="checkbox"/> CC <input type="checkbox"/> Net: Prelog storage:									

† - Material Type Codes: Plant Material (P) ; Isolate (I) ; Concentrate/Extract (C) ; Tincture/Topical (T) ; Edible (E) ; Beverage (B) ; Vapor Product (V)

Samples submitted to Columbia Laboratories with testing requirements constitute an agreement with the current terms of service associated with this COC. By signing "Relinquished by" you are agreeing to these terms

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P: (503) 254-1794 | Fax: (503) 254-1452
info@columbiaboratories.com

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Cannabis Multi-Residue Profile, Limits of Quantitation

Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)
Abamectin	0.100	Clethodim	0.050	Endrin	0.100
Acephate	0.100	Clethodim Sulfone	0.050	EPN	0.050
Acequinocyl	0.100	Clethodim Sulfoxide	0.050	EPTC	0.100
Acetamiprid	0.020	Clofentezine	0.020	Esfenvalerate/Fenvalerate	0.200
Acetochlor	0.100	Clomazone	0.020	Etaconazole	0.100
Acrinathrin	0.100	Clothianidin	0.200	Ethalfuralin	0.100
Alachlor	0.100	Coumaphos	0.050	Ethiofencarb	0.050
Aldicarb	0.100	Crotoxyphos	0.020	Ethion	0.200
Aldicarb sulfoxide	0.100	Cyanazine	0.020	Ethirimol	0.100
Aldoxycarb (Aldicarb-sulfone)	0.100	Cyanofenphos	0.020	Ethofumesate	0.050
Aldrin	0.100	Cyantraniliprole	0.050	Ethoprophos	0.020
Ametocrtadin	0.020	Cyazofamid	0.020	Etofenprox	0.020
Ametryn	0.500	Cycloate	0.100	Etoxazole	0.020
Aspon	0.100	Cyfluthrin	0.200	Etridiazole	0.100
Asulam	0.100	Cyhalothrin, lambda	0.200	Etrimfos	0.020
Atrazine	0.100	Cymoxanil	0.050	Famoxadone	0.200
Atrazine-desethyl	0.100	Cypermethrin	0.200	Famphur	0.100
Azinphos-ethyl	0.020	Cyprodinil	0.100	Fenamidone	0.020
Azinphos-methyl	0.020	Dacthal	0.100	Fenamiphos	0.020
Azoxystrobin	0.020	Daminozide	0.100	Fenamiphos sulfone	0.020
Benalaxyl	0.020	DCPMU	0.050	Fenamiphos sulfoxide	0.020
Bendiocarb	0.020	DDD, o,p'-	0.100	Fenazaquin	0.100
Benfluralin	0.100	DDD, p,p'-	0.100	Fenbuconazole	0.100
Benoxacor	0.050	DDE, o,p'-	0.100	Fenclorphanos	0.100
Bensulide	0.050	DDE, p,p'-	0.100	Fenclorphanos-oxon	0.100
BHC alpha isomer	0.100	DDT, o,p'-	0.100	Fenhexamid	0.100
BHC beta isomer	0.100	DDT, p,p'-	0.100	Fenitrothion	0.100
BHC delta isomer	0.500	DEF (Tribufos)	0.100	Fenobucarb	0.050
Bifenazate	0.020	Deltamethrin	0.100	Fenoxycarb	0.020
Bifenthrin	0.020	Desmedipham	0.100	Fenpropathrin	0.050
Boscalid	0.020	Diallate	0.100	Fenpyroximate	0.020
Bromophos-ethyl	0.100	Diazinon	0.020	Fenson	0.100
Bromophos-methyl	0.200	Diazoxon	0.100	Fensulfthion	0.020
Bromopropylate	0.100	Dichlobenil	0.100	Fensulfthion oxon	0.020
Bromuconazole	0.100	Dichlofluanid	0.100	Fensulfthion sulfone	0.100
Bupirimate	0.020	Dichlorvos	0.100	Fensulfthion-oxon-sulfone	0.020
Buprofezin	0.050	Diclobutrazol	0.050	Fenthion	0.050
Butachlor	0.500	Dicofol	0.100	Fenthion oxon	0.020
Butralin	0.200	Dicrotophos	0.050	Fenthion oxon sulfone	0.100
Butylate	0.100	Dieldrin	0.100	Fenthion sulfone	0.050
Cadusafos	0.020	Diethofencarb	0.020	Fenuron	0.020
Captan	1.000	Diethyltoluamide (DEET)	0.050	Fipronil	0.100
Carbaryl	0.050	Difenoconazole	0.100	Flonicamid	0.100
Carbendazim	0.100	Dimethenamid	0.050	Fluchloralin	0.100
Carbofuran	0.020	Dimethoate	0.050	Flucythrinate	0.100
Carbophenothion	0.200	Dimethomorph	0.050	Fludioxonil	0.200
Carboxin	0.020	Diniconazole	0.200	Flufenacet	0.020
Carfentrazone-ethyl	0.100	Dinotefuran	0.200	Flumioxazin	0.100
Chlorantraniliprole	0.020	Dioxathion	0.100	Fluometuron	0.020
Chlordane, cis-	0.200	Diphenamid	0.020	Fluopicolide	0.050
Chlordane, trans-	0.200	Diphenylamine	0.100	Fluopyram	0.020
Chlorfenapyr	0.500	Disulfoton	0.100	Fluoxastrobin	0.050
Chlorfenson	0.200	Disulfoton sulfone	0.100	Flupyradifurone	0.020
Chlorfenvinphos	0.050	Disulfoton sulfoxide	0.100	Fluridone	0.100
Chlorobenzilate	0.100	Diuron	0.050	Flusilazole	0.020
Chloroneb	0.200	Edifenphos	0.050	Flutolanil	0.020
Chlorpyrifos	0.050	Endosulfan alpha	0.200	Flutriafol	0.020
Chlorpyrifos-methyl	0.200	Endosulfan beta	0.200	Fluvalinate, tau-	0.100
CIPC	1.000	Endosulfan sulfate	0.100	Fluxapyroxad	0.020



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Cannabis Multi-Residue Profile, Limits of Quantitation

Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)
Fomesafen	0.100	Mexacarbate	0.020	Propamocarb	0.050
Fonofos	0.100	MGK 264	0.020	Propanil	0.050
Forchlorfenuron	0.050	Mirex	0.100	Propargite	0.050
Formetanate	0.050	Molinate	0.050	Propazine	0.020
Furathiocarb	0.020	Monocrotophos	0.100	Propetamphos	0.050
Heptachlor	0.100	Monolinuron	0.020	Propham	0.050
Heptachlor epoxide	0.100	Myclobutanil	0.050	Propiconazole	0.050
Heptenophos	0.100	Naled	0.100	Propoxur	0.050
Hexachlorobenzene	0.100	Napropamide	0.050	Propoxycarbazone Na	0.050
Hexaconazole	0.100	Neburon	0.020	Propyzamide	0.050
Hexazinone	0.100	Nitrapyrin	0.100	Prothiofos	0.100
Hexythiazox	0.020	Norflurazon	0.050	Pyraclostrobin	0.020
Imazalil	0.100	Omethoate	0.100	Pyrazophos	0.050
Imidacloprid	0.100	O-Phenylphenol	0.100	Pyrethrins	0.050
Indaziflam	0.020	Oxadixyl	0.100	Pyridaben	0.020
Indoxacarb	0.020	Oxamyl	0.100	Pyridafol	0.100
Iprobenfos	0.100	Oxamyl-oxime	0.100	Pyridate	0.020
Iprodione	0.100	Oxychlorane	0.100	Pyrimethanil	0.050
Isobenzan	0.100	Oxydemeton-Methyl	0.100	Pyriproxifen	0.020
Isocarbophos	0.500	Oxythioquinox	0.200	Pyroxasulfone	0.020
Isodrin	0.100	Paclobutrazol	0.050	Pyroxulam	0.020
Isofenphos	0.050	Paraoxon-ethyl	0.020	Quinalphos	0.050
Isofenphos-methyl	0.020	Paraoxon methyl	0.100	Quinoxyfen	0.050
Isofenphos oxon	0.050	Parathion ethyl	0.100	Quintozene (PCNB)	0.200
Isoprocarb	0.020	Parathion methyl	0.200	Resmethrin	0.050
Isopropalin	0.200	Penconazole	0.050	Rotenone	0.050
Isoprothiolane	0.050	Pendimethalin	0.050	S421	0.100
Isoproturon	0.050	Penflufen	0.020	Simazine	0.100
Isoxaben	0.050	Pentachloroaniline	0.100	Simetryn	0.200
Isoxaflutole	0.050	Pentachloroanisole	0.100	Spinetoram	0.020
Kresoxim-methyl	0.050	Pentachlorobenzene (PCB)	0.100	Spinosad	0.050
Lactofen	0.500	Pentachlorothioanisole (PCTA)	0.100	Spirodiclofen	0.100
Lenacil	0.100	Penthiopyrad	0.020	Spiromesifen	0.050
Lindane (gamma BHC)	0.100	Permethrin	0.050	Spirotetramat	0.050
Linuron	0.020	Perthane	0.100	Spiroxamine	0.020
Malaaxon	0.050	Phenmedipham	0.050	Sulfotep	0.050
Malathion	0.050	Phenthoate	0.050	Sulfoxaflor	0.050
Mandipropamid	0.020	Phorate	0.050	Sulprofos	0.020
Mecarbam	0.020	Phorate Sulfone	0.050	Tebuconazole	0.100
Mepanipyrim	0.050	Phorate Sulfoxide	0.050	Tebufenozide	0.020
Merphos	0.500	Phosalone	0.050	Tebuthiuron	0.020
Metalaxyl	0.050	Phosmet	0.100	Tecnazene	0.100
Metaldehyde	0.050	Phosphamidon	0.050	Tefluthrin	0.100
Metconazole	0.100	Phoxim	0.050	Terbufos	0.020
Methacrifos	0.100	Pinoxaden	0.020	Terbufos sulfone	0.050
Methamidophos	0.050	Piperonyl butoxide	0.050	Terbufos sulfoxide	0.050
Methidathion	0.050	Pirimicarb	0.020	Terbutylazine	0.020
Methiocarb	0.050	Pirimiphos-methyl	0.050	Terbutryn	0.020
Methiocarb sulfone	0.100	Pirimiphos-ethyl	0.020	Tetrachlorvinphos	0.050
Methiocarb sulfoxide	0.100	Prallethrin	0.100	Tetraconazole	0.050
Methomyl	0.100	Prochloraz	0.020	Tetradifon	0.200
Methoxychlor	0.100	Procymidone	0.100	Tetramethrin	0.050
Methoxyfenozide	0.020	Profenofos	0.100	Tetrasul	0.100
Metobromuron	0.050	Profluralin	0.100	Thiabendazole	0.100
Metolachlor	0.100	Promecarb	0.050	Thiabendazole, 5-hydroxy	0.100
Metolcarb	0.050	Prometon	0.100	Thiacloprid	0.050
Metrafenone	0.050	Prometryn	0.020	Thiamethoxam	0.100
Metribuzin	0.100	Propachlor	0.020	Thiobencarb	0.050
Mevinphos	0.100			Thiodicarb	0.050
				Thiophanate-methyl	0.050



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Cannabis Multi-Residue Profile, Limits of Quantitation

Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)
Tolclofos-methyl	0.100	Triazophos	0.020	Trifloxystrobin	0.020
Triforin	0.100	Tolyfluanid	0.050	Triticonazole	0.050
Tralkoxydim	0.100	Tridiphane	0.500	Vinclozolin	0.100
Triadimefon	0.050	Triflumizole	0.020	Zoxamide	0.020
Triallate	0.100	Trifluralin	0.100		

LOQ = Limit of Quantitation, mg/kg

Factors affecting the LOQ include instrumentation sensitivity for a particular analyte, sample size, moisture content (percent solids) of the sample, effectiveness of the cleanup on the sample extract, and especially the type of sample matrix.



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Portland, OR 97230
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Report Number: 22-014332/D002.R000
Report Date: 12/01/2022
ORELAP#: OR100028
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Laboratory Quality Control Results

J AOAC 2015 V98-6 Batch ID: 2210147

Laboratory Control Sample

Analyte	LCS	Result	Spike	Units	% Rec	Limits	Evaluation	Notes
CBDVA	2	0.0331	0.0341	%	97.0	80.0 - 120	Acceptable	
CBDV	2	0.0344	0.0354	%	97.0	80.0 - 120	Acceptable	
CBE	2	0.0336	0.0354	%	95.1	80.0 - 120	Acceptable	
CBD	1	0.0332	0.0319	%	104	90.0 - 110	Acceptable	
CBGA	1	0.0332	0.0322	%	103	80.0 - 120	Acceptable	
CBG	1	0.0331	0.0318	%	104	80.0 - 120	Acceptable	
CBD	1	0.0335	0.0319	%	105	90.0 - 110	Acceptable	
THCV	2	0.0331	0.0340	%	97.5	80.0 - 120	Acceptable	
d8THCV	2	0.0352	0.0362	%	97.1	80.0 - 120	Acceptable	
THCVA	2	0.0318	0.0332	%	95.8	80.0 - 120	Acceptable	
CBN	1	0.0335	0.0330	%	102	80.0 - 120	Acceptable	
exo-THC	2	0.0310	0.0327	%	94.7	80.0 - 120	Acceptable	
d9THC	1	0.0335	0.0340	%	98.5	90.0 - 110	Acceptable	
d8THC	1	0.0307	0.0334	%	92.1	90.0 - 110	Acceptable	
CBL	2	0.0313	0.0334	%	93.7	80.0 - 120	Acceptable	
d10THC	1	0.0309	0.0307	%	100	80.0 - 120	Acceptable	
CBC	2	0.0333	0.0349	%	95.3	80.0 - 120	Acceptable	
THCA	1	0.0350	0.0319	%	109	90.0 - 110	Acceptable	
CBCA	2	0.0337	0.0343	%	98.3	80.0 - 120	Acceptable	
CBLA	2	0.0339	0.0353	%	96.2	80.0 - 120	Acceptable	
CBT	2	0.0329	0.0366	%	89.8	80.0 - 120	Acceptable	

Method Blank

Analyte	Result	LOQ	Units	Limits	Evaluation	Notes
CBDVA	<LOQ	0.003	%	< 0.003	Acceptable	
CBDV	<LOQ	0.003	%	< 0.003	Acceptable	
CBE	<LOQ	0.003	%	< 0.003	Acceptable	
CBD	<LOQ	0.003	%	< 0.003	Acceptable	
CBGA	<LOQ	0.003	%	< 0.003	Acceptable	
CBG	<LOQ	0.003	%	< 0.003	Acceptable	
CBD	<LOQ	0.003	%	< 0.003	Acceptable	
THCV	<LOQ	0.003	%	< 0.003	Acceptable	
d8THCV	<LOQ	0.003	%	< 0.003	Acceptable	
THCVA	<LOQ	0.003	%	< 0.003	Acceptable	
CBN	<LOQ	0.003	%	< 0.003	Acceptable	
exo-THC	<LOQ	0.003	%	< 0.003	Acceptable	
d9THC	<LOQ	0.003	%	< 0.003	Acceptable	
d8THC	<LOQ	0.003	%	< 0.003	Acceptable	
CBL	<LOQ	0.003	%	< 0.003	Acceptable	
d10THC	<LOQ	0.003	%	< 0.003	Acceptable	
CBC	<LOQ	0.003	%	< 0.003	Acceptable	
THCA	<LOQ	0.003	%	< 0.003	Acceptable	
CBCA	<LOQ	0.003	%	< 0.003	Acceptable	
CBLA	<LOQ	0.003	%	< 0.003	Acceptable	
CBT	<LOQ	0.003	%	< 0.003	Acceptable	

Abbreviations

ND - None Detected at or above MRL
RPD - Relative Percent Difference
LOQ - Limit of Quantitation

Units of Measure:

% - Percent



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Laboratory Quality Control Results

J AOAC 2015 V98-6		Batch ID: 2210147						
Sample Duplicate		Sample ID: 22-014342-0002						
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDVA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBDV	<LOQ	0.0044	0.003	%	NA	< 20	Acceptable	R2
CBE	0.0164	0.0269	0.003	%	48.5	< 20	Outlier	R, Q4
CBDA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBGA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBG	0.0059	0.0096	0.003	%	47.4	< 20	Outlier	R, Q4
CBD	0.130	0.212	0.003	%	47.7	< 20	Outlier	R, Q4
THCV	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d8THCV	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
THCVA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBN	0.0105	0.0170	0.003	%	47.5	< 20	Outlier	R, Q4
exo-THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d9THC	0.0336	0.0555	0.003	%	49.2	< 20	Outlier	R, Q4
d8THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBL	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d10THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBC	0.0152	0.0246	0.003	%	47.6	< 20	Outlier	R, Q4
THCA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBCA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBLA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBT	0.0191	0.0330	0.003	%	53.0	< 20	Outlier	R, Q4

Abbreviations

ND - None Detected at or above MRL
 RPD - Relative Percent Difference
 LOQ - Limit of Quantitation

Units of Measure:



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Laboratory Quality Control Results

Residual Solvents				Batch ID: 2210164					
Method Blank				Laboratory Control Sample					
Analyte	Result	LOQ	Notes	Result	Spike	Units	% Rec	Limits	Notes
Propane	ND	< 200		601	572	µg/g	105.1	60 - 120	
Isobutane	ND	< 200		751	731	µg/g	102.7	60 - 120	
Butane	ND	< 200		744	731	µg/g	101.8	60 - 120	
2,2-Dimethylpropane	ND	< 200		977	936	µg/g	104.4	60 - 120	
Methanol	ND	< 200		1730	1650	µg/g	104.8	60 - 120	
Ethylene Oxide	ND	< 30		58.5	56.2	µg/g	104.1	60 - 120	
2-Methylbutane	ND	< 200		1660	1650	µg/g	100.6	60 - 120	
Pentane	ND	< 200		1660	1650	µg/g	100.6	60 - 120	
Ethanol	ND	< 200		1650	1660	µg/g	99.4	70 - 130	
Ethyl Ether	ND	< 200		1580	1630	µg/g	96.9	60 - 120	
2,2-Dimethylbutane	ND	< 30		202	189	µg/g	106.9	60 - 120	
Acetone	ND	< 200		1700	1650	µg/g	103.0	60 - 120	
2-Propanol	ND	< 200		1710	1650	µg/g	103.6	60 - 120	
Ethyl Formate	ND	< 500		1510	1610	µg/g	93.8	70 - 130	
Acetonitrile	ND	< 100		551	504	µg/g	109.3	60 - 120	
Methyl Acetate	ND	< 500		1740	1630	µg/g	106.7	70 - 130	
2,3-Dimethylbutane	ND	< 30		165	174	µg/g	94.8	60 - 120	
Dichloromethane	ND	< 60		514	521	µg/g	98.7	60 - 120	
2-Methylpentane	ND	< 30		187	187	µg/g	100.0	60 - 120	
MTBE	ND	< 500		1640	1600	µg/g	102.5	70 - 130	
3-Methylpentane	ND	< 30		198	188	µg/g	105.3	60 - 120	
Hexane	ND	< 30		199	182	µg/g	109.3	60 - 120	
1-Propanol	ND	< 500		1720	1610	µg/g	106.8	70 - 130	
Methylethylketone	ND	< 500		1690	1600	µg/g	105.6	70 - 130	
Ethyl acetate	ND	< 200		1660	1630	µg/g	101.8	60 - 120	
2-Butanol	ND	< 200		1650	1630	µg/g	101.2	60 - 120	
Tetrahydrofuran	ND	< 100		532	506	µg/g	105.1	60 - 120	
Cyclohexane	ND	< 200		1580	1640	µg/g	96.3	60 - 120	
2-methyl-1-propanol	ND	< 500		1610	1620	µg/g	99.4	70 - 130	
Benzene	ND	< 1		4.51	4.93	µg/g	91.5	60 - 120	
Isopropyl Acetate	ND	< 200		1650	1640	µg/g	100.6	60 - 120	
Heptane	ND	< 200		1650	1630	µg/g	101.2	60 - 120	
1-Butanol	ND	< 500		1630	1600	µg/g	101.9	70 - 130	
Propyl Acetate	ND	< 500		1670	1620	µg/g	103.1	70 - 130	
1,4-Dioxane	ND	< 100		471	493	µg/g	95.5	60 - 120	
2-Ethoxyethanol	ND	< 30		169	171	µg/g	98.8	60 - 120	
Methylisobutylketone	ND	< 500		1660	1620	µg/g	102.5	70 - 130	
3-Methyl-1-butanol	ND	< 500		1680	1610	µg/g	104.3	70 - 130	
Ethylene Glycol	ND	< 200		495	494	µg/g	100.2	60 - 120	
Toluene	ND	< 100		482	506	µg/g	95.3	60 - 120	
Isobutyl Acetate	ND	< 500		1700	1620	µg/g	104.9	70 - 130	
1-Pentanol	ND	< 500		1680	1610	µg/g	104.3	70 - 130	
Butyl Acetate	ND	< 500		1610	1610	µg/g	100.0	70 - 130	
Ethylbenzene	ND	< 200		938	996	µg/g	94.2	60 - 120	
m,p-Xylene	ND	< 200		913	1010	µg/g	90.4	60 - 120	
o-Xylene	ND	< 200		921	979	µg/g	94.1	60 - 120	
Cumene	ND	< 30		157	188	µg/g	83.5	60 - 120	
Anisole	ND	< 500		1620	1610	µg/g	100.6	70 - 130	
DMSO	ND	< 500		1560	1600	µg/g	97.5	70 - 130	
1,2-dimethoxyethane	ND	< 50		205	190	µg/g	107.9	70 - 130	
Triethylamine	ND	< 500		1540	1610	µg/g	95.7	70 - 130	
N,N-dimethylformamide	ND	< 150		434	496	µg/g	87.5	70 - 130	
N,N-dimethylacetamide	ND	< 150		515	483	µg/g	106.6	70 - 130	
Pyridine	ND	< 50		157	167	µg/g	94.0	70 - 130	
Sulfolane	ND	< 50		115	161	µg/g	71.4	70 - 130	



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QC - Sample Duplicate		Sample ID: 22-014208-0001						
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Accept/Fail	Notes
Propane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Isobutane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Butane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2,2-Dimethylpropane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Methanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethylene Oxide	ND	ND	30	µg/g	0.0	< 20	Acceptable	
2-Methylbutane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Pentane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethyl Ether	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2,2-Dimethylbutane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Acetone	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-Propanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethyl Formate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Acetonitrile	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Methyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
2,3-Dimethylbutane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Dichloromethane	ND	ND	60	µg/g	0.0	< 20	Acceptable	
2-Methylpentane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
MTBE	ND	ND	500	µg/g	0.0	< 20	Acceptable	
3-Methylpentane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Hexane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
1-Propanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Methyl ethyl ketone	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethyl acetate	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-Butanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Tetrahydrofuran	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Cyclohexane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-methyl-1-propanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Benzene	ND	ND	1	µg/g	0.0	< 20	Acceptable	
Isopropyl Acetate	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Heptane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
1-Butanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Propyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1,4-Dioxane	ND	ND	100	µg/g	0.0	< 20	Acceptable	
2-Ethoxyethanol	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Methylisobutylketone	ND	ND	500	µg/g	0.0	< 20	Acceptable	
3-Methyl-1-butanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethylene Glycol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Toluene	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Isobutyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1-Pentanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Butyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethylbenzene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
m,p-Xylene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
o-Xylene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Cumene	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Anisole	ND	ND	500	µg/g	0.0	< 20	Acceptable	
DMSO	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1,2-dimethoxyethane	ND	ND	50	µg/g	0.0	< 20	Acceptable	
Triethylamine	ND	ND	500	µg/g	0.0	< 20	Acceptable	
N,N-dimethylformamide	ND	ND	150	µg/g	0.0	< 20	Acceptable	
N,N-dimethylacetamide	ND	ND	150	µg/g	0.0	< 20	Acceptable	
Pyridine	ND	ND	50	µg/g	0.0	< 20	Acceptable	
Sulfolane	ND	ND	50	µg/g	0.0	< 20	Acceptable	

Abbreviations

ND - None Detected at or above MRL
RPD - Relative Percent Difference
LOQ - Limit of Quantitation

Units of Measure:

µg/g - Microgram per gram or ppm



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Explanation of QC Flag Comments:

Code	Explanation
Q	Matrix interferences affecting spike or surrogate recoveries.
Q1	Quality control result biased high. Only non-detect samples reported.
Q2	Quality control outside QC limits. Data considered estimate.
Q3	Sample concentration greater than four times the amount spiked.
Q4	Non-homogenous sample matrix, affecting RPD result and/or % recoveries.
Q5	Spike results above calibration curve.
Q6	Quality control outside QC limits. Data acceptable based on remaining QC.
R	Relative percent difference (RPD) outside control limit.
R1	RPD non-calculable, as sample or duplicate results are less than five times the LOQ.
R2	Sample replicates RPD non-calculable, as only one replicate is within the analytical range.
LOQ1	Quantitation level raised due to low sample volume and/or dilution.
LOQ2	Quantitation level raised due to matrix interference.
B	Analyte detected in method blank, but not in associated samples.
B1	The sample concentration is greater than 5 times the blank concentration.
B2	The sample concentration is less than 5 times the blank concentration.