

Office of Cannabis Management

Required Testing of Each Lot of Adult Use Cannabis and Medical Cannabis Product

This document lists the permitted analytes and sets testing limits for contaminants as directed in 9 New York Codes, Rules and Regulations (NYCRR) Part 130 and Cannabis Law. Testing for each contaminant is required for all final adult- use and medical cannabis product types unless expressly noted. Additional analytes may be added. These limits may be modified where it is in the best interest of public health and safety.

Regulatory Authority

Pursuant to the authority vested in the Cannabis Control Board (Board) by Sections 13, 43, 89, 105 and 129 of the Cannabis Law, 9 NYCRR Part 130, specifically Section 130.22 Testing of Cannabis Product and Medical Cannabis:

(a) testing of the phytocannabinoid profile in cannabis products and/or medical cannabis shall include, at a minimum, the analyte or groups of analytes specified under this Part; and

(b) testing for contaminants in cannabis product or medical cannabis shall include, but not be limited to, microorganisms, foreign material, metals, microbial impurities, moisture content and water activity, mycotoxins, pesticides, residual solvents, terpenoids, and any other analyte or group of analytes determined by the Office, consistent with the acceptable limits determined by the Office for each of the foregoing.

Phytocannabinoid Profile: (Testing is required on final cannabis products.)

	Medical	Adult-Use	Lab Result
	Cannabis	Cannabis	
Phytocannabinoid Profile	Product	Product	
	Limit	Limit	
Tetrahydrocannabinol (THC) as			
Total THC of:			
∆9-THC;			
∆8-THC;*			
∆10-THC; and*	Pursuant to 9	Pursuant to	
the optical isomer of such	NYCRR Section	guidance for	Report only as
substances	113.12	an Adult-Use	mass (mg/dose
Tetrahydrocannabinolic acid (THCA)		Conditional	or mg/serving)
Tetrahydrocannabivarin (THCV)		Processor	and percentage
Cannabidiol (CBD)		License	(% weight)
Cannabinadiolic acid (CBDA)			
Cannabidivarin (CBDV)			
Cannabinol (CBN)			
Cannabigerol (CBG)			
Cannabichromene (CBC)			
Other Requested Phytocannabinoid			

*A cannabis laboratory may report individual results for Δ 9-THC Δ 8-THC and Δ 10-THC isomers in adult-use and medical cannabis products. Total THC must always be reported. As defined in Article 1 of the Cannabis Law, Total THC is the sum of the percentage by weight or volume measurement of tetrahydrocannabinolic acid multiplied by 0.877, plus the percentage by weight or volume measurement of THC. For bulk flower and plants forms, phytocannabinoids must be corrected for moisture content and reported on a dry weight basis. <u>A laboratory must</u> <u>implement reporting on a dry weight basis no later than January 1, 2023.</u> **Microbiological Contaminants:** (Testing is required on final cannabis products.) The regulated microbiological analytes are listed in the tables below. If a non-regulated analyte is detected, it must be identified on the final report. The laboratory is not required to report a result for a non-regulated organism in cfu/g or cfu/mL.

Microorganism Analyte	Adult-Use Cannabis and Medical Cannabis Product Limit
	(Presence/Absence)
Salmonella species	Absent
Shiga toxin-producing <i>Escherichia coli</i> (O157:H7 plus O26, O111, O103, O121, O45, and O145)	Absent
Aspergillus fumigatus, Aspergillus flavus, Aspergillus niger, Aspergillus terreus	Absent

	Total Viable Aerobic Bacteria Count	Total Yeast and Mold Count
Adult-Use Cannabis	Report Re	esults Only
	(in cfu/g or cfu/mL)	(in cfu/g or cfu/mL)
Products containing Unextracted Cannabis*	Report Results Only	Report Results Only
	Total Viable Aerobic Bacteria Count	Total Yeast and Mold Count
Medical Cannabis Product	Lim	it (≤)
	(in cfu/g or cfu/mL)	(in cfu/g or cfu/mL)
Products containing Unextracted Cannabis	100,000 or 10⁵	10,000 or 10⁴
Adult Llos Connobio and	Total Viable Aerobic Bacteria Count	Total Yeast and Mold Count
Modical Cannabis Product	Limit (≤)	
	(in cfu/g or cfu/mL)	(in cfu/g or cfu/mL)
Products containing Extracted Cannabis or Infused Cannabis	10,000 or 10₄	1,000 or 10 ³

* Please note, that while Total Viable Aerobic Bacteria Count and Total Yeast and Mold Count tests are required, there will not be a defined limit for unextracted products (e.g. cannabis flower products) in the adult-use program. The OCM will monitor these laboratory testing results and licensees may be required to conduct further testing where results indicate concerns with product quality or safety. Mycotoxins: (Testing is required on all final cannabis products.)

	Lab Result	Adult-Use Cannabis and
Mycotoxins		Medical Cannabis Product
	Report all	Limit (in µg/g)
Total Aflatoxins	results in	
(Sum of Aflatoxin	µg/g only	
B1, Aflatoxin B2,		<0.020
Aflatoxin G1, and		
Aflatoxin G2, if		
determined		
individually)		
Ochratoxin A		<0.020

Based on the review of several years of mycotoxin results in medical cannabis products, the Office has amended the regulated contaminants to Total Aflatoxins and Ochratoxin A.

Trace / Heavy Metals: (Testing is required on final cannabis products.)

Trace / Heavy	Lab Result	Oral	Inhalation
Metal Analyte		Adult-Use Cannabis and	Medical Cannabis Product
(as a Total)		Limit (in	µg/g) (≤)
Antimony (Sb)		120	2
Arsenic (As)		1.5	0.2
	Report all		
	results in		
Cadmium (Cd)	µg/g only	0.5	0.3
*Chromium (Cr)		1,100	110
Copper (Cu)		300	30
Lead (Pb)	-	0.5	0.5
Mercury (Hg)		3	0.1

* Nickel (Ni)	20	2
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Zinc (Zn) was removed as a trace / heavy metal of concern. US Pharmacopeia (<232> and <561>) does not consider it a metal of concern requiring a limit.

* Please note OCM has changed the limits for Cu, Cr and Ni as it was stated under the April 25, 2022, testing limits revision. The OCM will monitor the laboratory testing results.

Water Activity:

A laboratory must analyze dried flower batch samples to determine if the water-activity level is at or below 0.65 units. Results must be reported to two significant figures.

A cannabis laboratory must analyze solid and semi-solid edible infused cannabis products, including oils, to determine if the level is at or below 0.85 units. Results must be reported to two significant figures.

Non-edible infused products are not subject to water activity testing.

Moisture Content: (ground flower product forms only / crude cannabis after packaging)

Dried flower batch samples pass for moisture content with a level of 5.0-15.0%. Percentage must be reported to the nearest tenth. If a sample has a moisture content of less than 5.0% or greater than 15.0%, the sample is not acceptable.

Filth and Foreign Material: (whole flower product forms only)

Filth and foreign material include, but is not limited to hair, insects, feces, manufacturing waste, packaging contaminants, and by-products.

Filth and foreign material	Limit
Mammalian excreta	Not more than an average of 1mg
	or more per pound

Foreign material	Not more than an average of 5% of
	stems 3 mm or more in diameter or
	more by weight and not more than
	2% of other foreign matter

Residual Solvents: (Testing is required on final cannabis products.)

All solvents used during the production of adult use and medical cannabis product must be declared for targeted testing. A licensee or registered organization may be required to submit samples for additional testing, including testing for analytes that are not listed below.

Please note that the lack of individual and mixed standards may not be commercially available for all the residual solvents listed below. If this is the case, it will make quantitation of individual peaks challenging and some isomers may co-elute. Where applicable, results should be reported as "tentatively identified, but not quantitatively confirmed."

Residual Solvent Analyte	CAS Registry Number	Class # ¹	Adult-Use Cannabis and Medical Cannabis Product Limit (≤)
			(in ug/g = ppm)
1,2-Dichloroethane (Ethylene dichloride, Ethylene chloride)	107-06-2	1	5
2-Propanol (Isopropanol, Isopropyl alcohol)	67-63-0	3	5000
Acetone (2-Propanone)	67-64-1	3	5000
Acetonitrile	75-05-8	2	410
Butanes, Total	106-97-8, 75-28-5	n/a	5000
Benzene	71-43-2	1	2
Chloroform	67-66-3	2	60
Dichloromethane (Methylene chloride)	75-09-2	2	600
Dimethyl sulfoxide (DMSO)	67-68-5	3	5000
Ethanol (Ethyl alcohol)	64-17-5	3	5000
Ethyl acetate (Acetic acid ethyl ester)	141-78-6	3	5000

¹ Class 1 are solvents to be avoided. Class 2 are solvents to be limited. Class 3 are solvents with low toxic potential.

Ethyl ether (Diethyl ether, 1,1'- Oxybisethane)	60-29-7	3	5000
Heptane (n-Heptane)	142-82-5	3	5000
Hexanes, Total	110-54-3, 107-83-5, 96- 14-0, 75-83-2, 79-29-8	2	290
Methanol (Methyl alcohol)	67-56-1	2	3000
Pentanes, Total	109-66-0, 78-78-4, 463- 82-1	3	5000
Propane	74-98-6	n/a	5000
Toluene (Methylbenzene)	108-88-3	2	890
Trichloroethane (1,1,1-)	71-55-6	1	1500
Xylenes, Total (ortho-, meta-, para-)	95-47-6, 108-38-3, 106- 42-3	2	2170

Pesticides, including Growth Regulators and Myclobutanil: (Testing is required on final cannabis products.)

Any pesticide, including growth regulators and myclobutanil, used during production of an adult use and medical cannabis product must be declared for targeted testing. Targeted testing will be supplemented by the testing of the following pesticide contaminants and their limits. A licensee or registered organization may also be required to submit samples for additional testing, including testing for analytes that are not listed below.

Please note that the lack of individual and mixed standards may not be commercially available for all the pesticides listed below. If this is the case, it will make quantitation of individual peaks challenging and some isomers may co-elute. Where applicable, the results should be reported as "tentatively identified, but not quantitatively confirmed."

Pesticide Analyte	CAS Registry Number	Adult-Use Cannabis and Medical Cannabis Product Limit (≤) (in ppm = 1 µg/g)
Abamectin	71751-41-2	0.5
Acephate	30560-19-1	0.4
Acequinocyl	57960-19-7	2
Acetamiprid	135410-20-7	0.2
Aldicarb	116-06-3	0.4
Azadirachtin	11141-17-6	1

Azoxystrobin	131860-33-8	0.2
Bifenazate	149877-41-8	0.2
Bifenthrin	82657-04-3	0.2
Boscalid	188425-85-6	0.4
Captan	133-06-2	1
Carbaryl	63-25-2	0.2
Carbofuran	1563-66-2	0.2
Chlorantraniliprole	500008-45-7	0.2
Chlordane	57-74-9	1
Chlorfenapyr	122453-73-0	1
Chlormequat chloride	999-81-5	1
Chlorpyrifos	2921-88-2	0.2
Clofentezine	74115-24-5	0.2
Coumaphos	56-72-4	1
Cyfluthrin	68359-37-5	1
Cypermethrin	52315-07-8	1
Daminozide	1596-84-5	1
Diazinon	333-41-5	0.2
Dichlorvos (DDVP)	62-73-7	1
Dimethoate	60-51-5	0.2
Dimethomorph	110488-70-5	1
Ethoprop(hos)	13194-48-4	0.2
Etofenprox	80844-07-1	0.4
Etoxazole	153233-91-1	0.2
Fenhexamid	126833-17-8	1
Fenoxycarb	72490-01-8	0.2
Fenpyroximate	111812-58-9	0.4
Fipronil	120068-37-3	0.4
Flonicamid	158062-67-0	1
Fludioxonil	131341-86-1	0.4
Hexythiazox	78587-05-0	1
Imazalil	35554-44-0	0.2
Imidacloprid	138261-41-3	0.4
Indole-3-butyric acid	133-32-4	1
Kresoxim-methyl	143390-89-0	0.4
Malathion	121-75-5	0.2
Metalaxyl	57837-19-1	0.2
Methiocarb	2032-65-7	0.2
Methomyl	16752-77-5	0.4
Methyl parathion	298-00-0	0.2
Mevinphos	7786-34-7	1
MGK-264	113-48-4	0.2
Myclobutanil	88671-89-0	0.2

Naled	300-76-5	0.5
Oxamyl	23135-22-0	1
Paclobutrazol	76738-62-0	0.4
Pentachloronitrobenzene	82-68-8	1
	52645-53-1, 54774-45-	0.2
Permethrins, Total	7, 51877-74-8	
Phosmet	732-11-6	0.2
Piperonyl butoxide	51-03-6	2
Prallethrin	23031-36-9	0.2
Propiconazole	60207-90-1	0.4
Propoxur	114-26-1	0.2
Pyrethrins ²	8003-34-7	1
Pyridaben	96489-71-3	0.2
	187166-15-0, 187166-	1
Spinetoram, Total	40-1	
	131929-60-7, 131929-	0.2
Spinosad, Total	63-0	
Spiromesifen	283594-90-1	0.2
Spirotetramat	203313-25-1	0.2
Spiroxamine	118134-30-8	0.2
Tebuconazole	107534-96-3	0.4
Thiacloprid	111988-49-9	0.2
Thiamethoxam	153719-23-4	0.2
Trifloxystrobin	141517-21-7	0.2

Terpenoids:

Terpenoids are primarily responsible for the aroma of cannabis. Cannabis laboratories may test adult use cannabis and medical cannabis products for the major terpenoids when requested by the licensee or registered organization. The terpenoids shall be reported in a percentage (by weight). Percentage must be reported to the nearest tenth.

² As the cumulative of Pyrethrin 1, Cinerin 1 and Jasmolin 1 (CAS numbers 121-21-1, 25402-06-6 and 4466-14-2, respectively)