

Rule: 42.39.614

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Rule Title: TESTING LABORATORY QUALITY ASSURANCE TESTING REQUIREMENTS

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42.39.614 TESTING LABORATORY QUALITY ASSURANCE TESTING REQUIREMENTS

(1) Except as provided in (10), a licensee must submit for testing a sample of every test batch from a harvest lot of marijuana and process lots of marijuana-infused products, extracts, and concentrates intended for use by a customer prior to selling or transferring the marijuana item to a customer.

(2) All marijuana items intended for direct sale or transfer to customers shall be tested in its final form. The addition of any ingredient after final quality assurance compliance testing will require retesting.

(3) The cannabinoid profile/potency for each sample must include:

- (a) THCA;
- (b) THC;
- (c) Total potential psychoactive THC for marijuana items that require the application of heat for administration/consumption only;
- (d) CBDA; and
- (e) CBD.

(4) The laboratory test sample and related lot or test batch fail quality assurance testing for moisture analysis if the results are greater than 12.0%.

(5) The laboratory test sample and related lot or test batch fail quality assurance testing for filth and foreign matter screening if the results are greater than the following action levels:

- (a) 5.0% of stems 3mm or more in diameter; and
- (b) 2.0% of seeds or other foreign matter.

(6) The laboratory test sample and related lot or test batch fail quality assurance testing for microbiological screening if the results are greater than the following action levels:

- (a) *Salmonella* species: non-detectable in 1.0 gram of material;
- (b) Shiga-toxin producing *Escherichia coli* (STEC): non-detectable in 1.0 gram of material;

and

(c) Pathogenic *Aspergillus* species *A. flavus*, *A. fumigatus*, *A. niger*, and *A. terreus*: Each non-detectable in 1.0 gram of material.

(7) Microbiological testing using molecular methods must include an enrichment step that follows the protocol provided by the manufacturer, molecular method used, or product instructions for use. Decreasing the enrichment time outside of the range provided above is strictly prohibited.

(8) The laboratory test sample and related lot fail quality assurance testing for mycotoxins if the results are greater than the following action level:

- (a) Total of Aflatoxin B1, B2, G1, G2: 20 µg/kg; and
- (b) Ochratoxin A: 20 µg/kg of substance.

(9) A laboratory test sample and related lot or test batch fail quality assurance testing for residual solvents if the results are greater than the action levels provided in table 1.0.

Residual Solvents	(CAS) Registry Number	Table 1.0 Action Level ppm
Acetone	67-64-1	5,000
Benzene	71-43-2	2
Total Butanes	See ¹	5,000
* n-butane	106-97-8	
* iso-butane	75-28-5	
Chloroform	67-66-3	2
Cyclohexane	110-82-7	3,880
Dichloromethane	75-09-2	600
Ethyl acetate	141-78-6	5,000
Heptane	142-82-5	5,000
Total Hexanes	See ²	290
* n-hexane	110-54-3	
* 2-methylpentane	107-83-5	
* 3-methylpentane	96-14-0	
* 2,2-dimethylbutane	75-83-2	
* 2,3-dimethylbutane	79-29-8	
Isopropanol (2-propanol)	67-63-0	5,000
Methanol	67-56-1	3,000
Total Pentanes	See ³	5,000
* n-pentane	109-66-0	
* iso-pentane	78-78-4	
* neo-pentane	463-82-1	
Propane	74-98-6	5,000
Toluene	108-88-3	890
Total Xylenes	See ⁴	2,170
* 1,2-dimethylbenzene	95-47-6	
* 1,3-dimethylbenzene	108-38-3	
* 1,4-dimethylbenzene	106-42-3	

1 Total butanes should be calculated as sum of n-butane and iso-butane.

2 Total hexanes should be calculated as sum of n-hexane, 2-methylpentane, 3-methylpentane, 2,2-dimethylbutane and 2,3-dimethylbutane.

3 Total pentanes should be calculated as sum of n-pentane, iso-pentane, and neo-pentane.

4 Total xylenes should be calculated as sum of 1,2-dimethylbenzene, 1,3-dimethylbenzene, and 1,4-dimethylbenzene.

(10) Heavy metals will be tested at random. A laboratory test sample and related lot or test batch fail quality assurance testing for heavy metals if the results are greater than the action levels provided in table 2.0.

Heavy Metals	Action Level ppm; Inhalable Marijuana Items	Action Level ppm; Other Marijuana Items
Inorganic Arsenic	0.2	1.5
Cadmium	0.2	0.5
Lead	0.5	0.5
Mercury	0.1	3.0

(11) A laboratory test sample and related lot or test batch fail quality assurance testing for pesticides if the results are greater than the action levels provided in table 3.0.

Pesticides	(CAS) Registry Number	Action Level ppm; Dry Flower	Action Level ppm; Concentrates and Extracts
Abamectin	71751-41-2	0.5	2.5
Acequinocyl	57960-19-7	2	10
Bifenazate	149877-41-8	0.2	1
Bifenthrin	82657-04-3	0.2	1
Chlormequat	999-81-5	1	5
Chloride			
Cyfluthrin	68359-37-5	1	5
Daminozide	1596-84-5	1	5
Etoxazole	153233-91-1	0.2	1
Fenoxycarb	72490-01-8	0.2	1
Imazalil	35554-44-0	0.2	1
Imidacloprid	138261-41-3	0.4	2
Myclobutanil	88671-89-0	0.2	0.6
Paclobutrazol	76738-62-0	0.4	2
Pyrethrins†	8003-34-7	1	5
Spinosad	168316-95-8	0.2	1
Spirotetramat	203313-25-1	0.2	1
Trifloxystrobin	141517-21-7	0.2	1

† Pyrethrins should be measured as the cumulative residues of pyrethrin 1, cinerin 1, and jasmolin 1 (CAS numbers 121-21-1, 25402-06-6, and 4466-14-2 respectively).

(12) Licensees must adhere to testing requirements for all marijuana and marijuana products intended for sale or transfer to customers.

(a) Usable marijuana, including trim and manicure must be tested for:

- (i) pesticides;
- (ii) moisture content;
- (iii) cannabinoid profile/potency;
- (iv) microbiological;
- (v) mycotoxin;
- (vi) filth and foreign matter; and
- (vii) heavy metals (random testing).

(b) A licensee has the option to forgo testing of usable marijuana, including trim and manicure, if that usable marijuana is subject to further processing before sale or transfer to customers.

(c) Marijuana extract and concentrate that is intended for direct sale or transfer to customers must be tested for:

- (i) pesticides;
- (ii) cannabinoid profile/potency;
- (iii) microbiological;
- (iv) mycotoxin;
- (v) heavy metals (random testing); and
- (vi) residual solvents.

(d) Marijuana extract and concentrate that is intended for further processing before direct sale or transfer to customers must be tested for:

- (i) pesticides;
- (ii) residual solvents;
- (iii) mycotoxin; and
- (iv) heavy metals (random testing).

(e) Marijuana infused products intended for human consumption, ingestion, or used as suppositories, topicals, and transdermal patches must be tested for:

- (i) cannabinoid profile/potency; and
- (ii) microbiological.

(f) All marijuana products listed in (e) must use marijuana extract and concentrate that has passed quality assurance testing requirements as set forth in (d).

History: [16-12-202](#), [16-12-209](#), MCA; [IMP](#), [16-12-202](#), [16-12-209](#), MCA; [NEW](#), 2019 MAR p. 1868, Eff. 10/19/19; [AMD](#), 2022 MAR p. 58, Eff. 1/15/22; [TRANS](#), from ARM [37.107.316](#), 2023 MAR p. 570, Eff. 7/2/23.

MAR Notices	Effective From	Effective To	History Notes
42-1068	7/2/2023	Current	History: 16-12-202 , 16-12-209 , MCA; IMP , 16-12-202 , 16-12-209 , MCA; NEW , 2019 MAR p. 1868, Eff. 10/19/19; AMD , 2022 MAR p. 58, Eff. 1/15/22; TRANS , from ARM 37.107.316 , 2023 MAR p. 570, Eff. 7/2/23.