



# Washington State Liquor and Cannabis Board

**Topic:** Petition for Adoption, Amendment, or Repeal of a State Administrative Rule – Residual Ethanol in Cannabis Concentrates.

**Date:** August 31, 2022

**Presented by:** Jeff Kildahl, Policy and Rules Coordinator

## Background

On July 11, 2022, Colum Tinley submitted a petition requesting the agency to change an existing rule. Mr. Tinley is requesting a rule amendment to remove the allowed residual solvent limit of 5,000 parts per million for ethanol in cannabis concentrates, and adopt a standard with no limit for residual ethanol.

In the rule petition, Mr. Tinley states:

☒ 2. AMEND RULE - I am requesting the agency to change an existing rule.

List rule number (WAC), if known: \_\_\_\_\_

☒ I am requesting the following change: \_\_\_\_\_

The allowed limit for residual ethanol in concentrates was recently changed from "no limit" to "5000 ppm." I propose we return to the previous limit of no limit.

☒ This change is needed because: \_\_\_\_\_

Purging a concentrate to a level below 5000 ppm of ethanol requires more heat than is desirable. Heat in any step of the extraction process has undesirable consequences.

☒ The effect of this rule change will be: \_\_\_\_\_

No effect, we would simply return to the rule regarding ethanol in concentrates that we previously operated under.

## Issue

Whether the Board should initiate rulemaking to remove the residual solvent limit of 5000 parts per million for ethanol in cannabis concentrates from WAC 314-55-102(3)(f), which took effect on April 2, 2022.

## Authority

RCW 69.50.342 grants the Board authority to adopt rules to put Initiative 502 into effect.

RCW 69.50.345 directs the Board to establish the procedures and criteria necessary to implement agency functions.

WAC 314-55-104 establishes cannabis processor licensee extraction requirements.

## Analysis

As part of the recent rulemaking project to update cannabis quality control standards, WAC 314-55-102(3)(f) was permanently amended in April 2022 to establish a maximum residual solvent limit level of 5,000 parts per million for ethanol in cannabis concentrates. The purpose of adopting this standard for residual ethanol was to achieve consistency with another rule section, WAC 314-55-104, which establishes extraction requirements for cannabis processor licensees. In this rule section, WAC 314-55-104(11) requires that all ethanol must be removed from extracts, to be completed in a manner to recapture the solvent and ensure that it is not vented into the atmosphere.

In the recent rulemaking, the limit for residual ethanol was set at a value of 5,000 parts per million for ethanol, a level consistent with other class 3 solvents as defined in *United States Pharmacopoeia USP 30 Chemical Tests / <467> - Residual Solvents (USP <467>)*. This limit is also the maximum level for other class 3 solvents in this rule and establishes a maximum value consistent with the intent of WAC 314-55-104(11). Although WAC 314-55-104(11) requires that *all* ethanol must be removed from the extract, there was previously no numerical limit level indicated for ethanol in WAC 314-55-102. Therefore, an established standard of 5,000 parts per million was adopted as a compliance standard.

In the rule petition, Mr. Tinley requests a rule change to remove the limit of 5,000 parts per million for ethanol. In an attached letter, Mr. Tinley asserts the following regarding the presence of residual ethanol in cannabis concentrates:

The LCB recently changed the limit for residual ethanol in concentrates from “no limit” to 5000 ppm and this rule change has had an undesirable effect on our ability to produce non-psychoactive concentrates. We produce a wide range of concentrates aimed primarily at elderly medicinal consumers. I've heard countless times from customers that they do not want to get stoned, they just want to live more comfortably. Living with less pain without experiencing psychoactivity is a completely reasonable and obtainable goal however an ethanol limit of 5000 ppm makes achieving this very difficult and here's why. In order to purge ethanol from our concentrates to a level below 5000 ppm requires heat, too much heat. We perform our extractions cryogenically at -86°C because heat is the enemy in our mission to create a clean extract loaded with terpenes and acidic cannabinoids. The application of heat at any step in the extraction process will purge not only solvents like ethanol but will also purge medicinal terpenes and decarboxylates cannabinoids. You may be aware that THCA as it is found in a raw cannabis plant is not a psychoactive cannabinoid until it is heated at which time a carboxylic acid group is removed (decarboxylation) from the THCA molecule forming THC, at which point the molecule becomes psychoactive. As you can see we need to minimize psychoactivity because it is undesirable for many people, especially for daytime use but there is another huge advantage to consuming acidic cannabinoids. Acidic cannabinoids have much greater bioavailability than decarboxylated cannabinoids. Studies show that when administered equipotent doses of THC, THCA, CBD and CBDA subjects' blood levels of THCA and CBDA are about 50 times higher than blood levels of THC and CBD. Finally, I'd like to share a common complaint from customers when our oil is purged to 5000 ppm. At 5000 ppm our oil is too thick to dispense from the syringe and we have had a number of customers reach out to us to complain they cannot get the oil out of the syringe. Image the challenge this creates for someone with rheumatoid arthritis or osteoarthritis of the hand!

Mr. Tinley asserts that in production of cannabis concentrates cryogenically in a low temperature environment, it is very difficult to remove enough ethanol to reach a level of 5,000 parts per million. He describes the purported need to keep concentrates away from heat so as to prevent loss of terpenes and acidic cannabinoids. He also asserts that the finished product is too thick for use by some patients if the residual ethanol levels are below 5,000 parts per million.

### *Public Health and Safety Risks*

For cannabis consumers, residual ethanol is recognized as a possible hazard if present in inhaled concentrates. For cannabis processors, ethanol is an extremely flammable solvent and must be recaptured from cannabis concentrates and not vented into the atmosphere during production.

### *Conclusion*

The amendment to WAC 314-55-102(3)(f) to establish a maximum residual solvent limit level of 5,000 parts per million for ethanol in cannabis concentrates is not a substantive change to LCB rules. Although Mr. Tinley is requesting removal of the limit level of 5,000 parts per million in favor of no limit, LCB rules in WAC 314-55-104(11) have required removal of all ethanol from cannabis extracts since June 20, 2015. The standard of 5,000 parts per million was adopted in April 2022 for the purpose of establishing a safe numerical value for quality control testing of cannabis concentrates.

### **Recommendation**

Director's Office staff recommends that consistent with RCW 34.05.330(1)(a)(i), the Board deny Mr. Tinley's rule petition request to remove the allowed residual solvent limit of 5,000 parts per million for ethanol in cannabis concentrates, received on July 11, 2022, for the reasons described above.

### **Board Action**

After considering the recommendation of Director's Office staff, the Board accepts /denies the petition received on July 11, 2022, from Mr. Tinley for the reasons stated herein.

\_\_\_\_\_ Accept \_\_\_\_\_ Deny

\_\_\_\_\_  
David Postman, Chair

\_\_\_\_\_  
Date

\_\_\_\_\_ Accept \_\_\_\_\_ Deny

\_\_\_\_\_  
Ollie Garrett, Board Member

\_\_\_\_\_  
Date

\_\_\_\_\_ Accept \_\_\_\_\_ Deny

\_\_\_\_\_  
Jim Vollendroff, Board Member

\_\_\_\_\_  
Date

### **Attachments**

1. Rule petition from Colum Tinley received July 11, 2022
2. Letter from Colum Tinley received July 11, 2022
3. Acknowledgement of rule petition
4. RCW 69.50.342
5. RCW 69.50.345
6. WAC 314-55-102
7. WAC 314-55-104



## PETITION FOR ADOPTION, AMENDMENT, OR REPEAL OF A STATE ADMINISTRATIVE RULE

In accordance with [RCW 34.05.330](#), the Office of Financial Management (OFM) created this form for individuals or groups who wish to petition a state agency or institution of higher education to adopt, amend, or repeal an administrative rule. You may use this form to submit your request. You also may contact agencies using other formats, such as a letter or email.

The agency or institution will give full consideration to your petition and will respond to you within 60 days of receiving your petition. For more information on the rule petition process, see Chapter 82-05 of the Washington Administrative Code (WAC) at <http://apps.leg.wa.gov/wac/default.aspx?cite=82-05>.

### CONTACT INFORMATION *(please type or print)*

Petitioner's Name \_\_\_\_\_  
 Name of Organization \_\_\_\_\_  
 Mailing Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
 Telephone \_\_\_\_\_ Email \_\_\_\_\_

### COMPLETING AND SENDING PETITION FORM

- Check all of the boxes that apply.
- Provide relevant examples.
- Include suggested language for a rule, if possible.
- Attach additional pages, if needed.
- Send your petition to the agency with authority to adopt or administer the rule. Here is a list of agencies and their rules coordinators: <http://www.leg.wa.gov/CodeReviser/Documents/RClist.htm>.

### INFORMATION ON RULE PETITION

Agency responsible for adopting or administering the rule: \_\_\_\_\_

☐ **1. NEW RULE - I am requesting the agency to adopt a new rule.**

☐ The subject (or purpose) of this rule is: \_\_\_\_\_

☐ The rule is needed because: \_\_\_\_\_

☐ The new rule would affect the following people or groups: \_\_\_\_\_

☐ **2. AMEND RULE - I am requesting the agency to change an existing rule.**

List rule number (WAC), if known: \_\_\_\_\_

☐ I am requesting the following change: \_\_\_\_\_

☐ This change is needed because: \_\_\_\_\_

☐ The effect of this rule change will be: \_\_\_\_\_

☐ The rule is not clearly or simply stated: \_\_\_\_\_

☐ **3. REPEAL RULE - I am requesting the agency to eliminate an existing rule.**

List rule number (WAC), if known: \_\_\_\_\_

*(Check one or more boxes)*

☐ It does not do what it was intended to do.

☐ It is no longer needed because: \_\_\_\_\_

☐ It imposes unreasonable costs: \_\_\_\_\_

☐ The agency has no authority to make this rule: \_\_\_\_\_

☐ It is applied differently to public and private parties: \_\_\_\_\_

☐ It conflicts with another federal, state, or local law or rule. List conflicting law or rule, if known: \_\_\_\_\_

☐ It duplicates another federal, state or local law or rule. List duplicate law or rule, if known: \_\_\_\_\_

☐ Other (please explain): \_\_\_\_\_

## Residual Ethanol in Concentrates

The LCB recently changed the limit for residual ethanol in concentrates from “no limit” to 5000 ppm and this rule change has had an undesirable effect on our ability to produce non-psychoactive concentrates. We produce a wide range of concentrates aimed primarily at elderly medicinal consumers. I’ve heard countless times from customers that they do not want to get stoned, they just want to live more comfortably. Living with less pain without experiencing psychoactivity is a completely reasonable and obtainable goal however an ethanol limit of 5000 ppm makes achieving this very difficult and here’s why. In order to purge ethanol from our concentrates to a level below 5000 ppm requires heat, too much heat. We perform our extractions cryogenically at  $-86^{\circ}\text{C}$  because heat is the enemy in our mission to create a clean extract loaded with terpenes and acidic cannabinoids. The application of heat at any step in the extraction process will purge not only solvents like ethanol but will also purge medicinal terpenes and decarboxylates cannabinoids. You may be aware that THCA as it is found in a raw cannabis plant is not a psychoactive cannabinoid until it is heated at which time a carboxylic acid group is removed (decarboxylation) from the THCA molecule forming THC, at which point the molecule becomes psychoactive. As you can see we need to minimize psychoactivity because it is undesirable for many people, especially for daytime use but there is another huge advantage to consuming acidic cannabinoids. Acidic cannabinoids have much greater bioavailability than decarboxylated cannabinoids. Studies show that when administered equipotent doses of THC, THCA, CBD and CBDA subjects’ blood levels of THCA and CBDA are about 50 times higher than blood levels of THC and CBD. Finally, I’d like to share a common complaint from customers when our oil is purged to 5000 ppm. At 5000 ppm our oil is too thick to dispense from the syringe and we have had a number of customers reach out to us to complain they cannot get the oil out of the syringe. Image the challenge this creates for someone with rheumatoid arthritis or osteoarthritis of the hand!

**From:** [Kildahl, Jeff \(LCB\)](#)  
**To:** [Colum Tinley](#); [LCB DL Rules](#)  
**Cc:** [tamilee100@gmail.com](#); [Bolender, Joshua L \(LCB\)](#); [Poolman, Nicholas \(LCB\)](#); [Rupke, Ronald \(LCB\)](#); [Murphy, Matthew W \(LCB\)](#); [Jennings, Michael \(LCB\)](#); [DeSpain, Robert \(LCB\)](#)  
**Subject:** RE: New Residual Solvents Limits  
**Date:** Monday, July 11, 2022 8:49:00 AM

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Good Morning Colum,

Thank you for your petition to adopt, amend, or repeal state administrative rules.

Your petition was received today , July 11, 2022. Consistent with [RCW 34.05.330](#) and [WAC 82-05-040](#), the Board has 60 days after submission of a rulemaking petition to either:

(a) deny the petition in writing, stating (i) its reasons for the denial, specifically addressing the concerns raised by the petitioner, and, where appropriate, (ii) the alternative means by which it will address the concerns raised by the petitioner, or

(b) initiate rule-making proceedings in accordance with RCW [34.05.320](#).

The Board will have until September 9, 2022 to take action as detailed above.

Please let me know if you have any questions.

Sincerely,  
Jeff

Jeff Kildahl  
Policy and Rules Coordinator  
Washington State Liquor and Cannabis Board  
360-664-1781  
[jeff.kildahl@lcb.wa.gov](mailto:jeff.kildahl@lcb.wa.gov)

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**From:** Colum Tinley <cpt409@gmail.com>  
**Sent:** Saturday, July 9, 2022 10:18 AM  
**To:** LCB DL Rules <rules@lcb.wa.gov>  
**Cc:** tamilee100@gmail.com; Bolender, Joshua L (LCB) <joshua.bolender@lcb.wa.gov>; Poolman, Nicholas (LCB) <nicholas.poolman@lcb.wa.gov>; Rupke, Ronald (LCB) <ronald.rupke@lcb.wa.gov>; Murphy, Matthew W (LCB) <matthew.murphy@lcb.wa.gov>; Jennings, Michael (LCB) <michael.jennings@lcb.wa.gov>; DeSpain, Robert (LCB) <robert.despain@lcb.wa.gov>  
**Subject:** Re: New Residual Solvents Limits

External Email



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Attached you should find our proposal for a rule change.

Thanks for your guidance on how to proceed,  
Colum Tinley  
Discovery Garden  
License 416103  
360-301-9090

On Wed, Jul 6, 2022 at 11:37 AM DeSpain, Robert (LCB) <[robert.despain@lcb.wa.gov](mailto:robert.despain@lcb.wa.gov)> wrote:

Hello Colum,

Thank you so much for your message regarding the rule requirements on residual solvents for ethanol in concentrates.

If you would like to introduce proposed changes or revisions, please review the following webpage that contains information describing how to petition a state agency for rulemaking:

<https://lcb.wa.gov/laws/petition-for-rulemaking>.

Consistent with [Chapter 82-05 WAC](#), please provide all of the information as listed in [WAC 82-05-020](#). To ensure you provide all of the requisite information, please complete the [PETITION FOR ADOPTION, AMENDMENT, OR REPEAL OF A STATE ADMINISTRATIVE RULE](#). You may then submit the form to [rules@lcb.wa.gov](mailto:rules@lcb.wa.gov).

This petition form provides the agency with all of the information we need to review your request, including the specific rule or rules you'd like the agency to consider replacing, amending, or repealing.

If you would like to sign up for future updates regarding our current rulemaking projects, please consider subscribing to the LCB's [Email Updates](#).

Thanks again for sharing your concerns. Although I am providing you with the necessary information to file a formal rule petition, you are more than welcome to reach out again via email or phone if you have any additional questions or comments you would like to share.

Cheers,  
Robert

**Robert DeSpain, JD (he/him/his)**

Policy and Rules Coordinator  
Washington State Liquor and Cannabis Board  
(360) 664-4519 **Desk** | (360) 878-4235 **Mobile**  
[robert.despain@lcb.wa.gov](mailto:robert.despain@lcb.wa.gov)

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**From:** Colum Tinley <[cpt409@gmail.com](mailto:cpt409@gmail.com)>

**Sent:** Tuesday, July 05, 2022 6:15 PM

**To:** MJ Examiner (LCB) <[MJExaminer@lcb.wa.gov](mailto:MJExaminer@lcb.wa.gov)>

**Cc:** Tami Mendonca <[tamilee100@gmail.com](mailto:tamilee100@gmail.com)>; Jennings, Michael (LCB) <[michael.jennings@lcb.wa.gov](mailto:michael.jennings@lcb.wa.gov)>

**Subject:** New Residual Solvents Limits

External Email

Dear LCB,

The recent revision of the limit for ethanol in concentrates has created a hardship which I'd like to explain in hope the LCB will return to the previous ethanol limit, which was no limit. Discovery Garden is owned and operated by nurses, consequently we have always been focused on producing medically oriented products. We have been producing ethanol extracted concentrates since WA State legalization. Unfortunately the new 5000 ppm limit on ethanol results in a concentrate that is too dry to be dispensed and we have had multiple complaints from customers regarding this problem. The majority of our customers are elderly, many are treating inflammatory diseases like arthritis which makes handling such a dry oil very challenging. In addition to that is the fact that when we extract cannabis oil we do so under cryogenic temperatures so as to minimize the loss of terpenes (which have medicinal benefits) as well as minimize the decarboxylation of cannabinoids. It's very difficult to purge ethanol out of a concentrate to 5000 ppm without the use of high temperatures yet high temperatures are undesirable because we have many customers who don't want to get stoned. As you may know THCA is not psychoactive, THC is psychoactive. High temperatures when purging ethanol from cannabis oil will decarboxylate all THCA to THC resulting in an undesirable psychoactive product. In case you didn't know, acidic cannabinoids like THCA, CBDA, CBGA, etc are 50 times more bioavailable than decarboxylated cannabinoids like THC, CBD, CBG, etc. That means when equipotent doses are taken blood levels of acidic cannabinoids are more than 50 times higher than decarboxylated cannabinoids. Figure 2 on page 6 of the attached study provides a nice graph to visualize how much greater bioavailability there is from acidic cannabinoids.

I'm hoping the LCB will consider what we are trying to accomplish here at Discovery Garden and help us to help our friends, neighbors and families by relaxing the ethanol limit for concentrates.

Thank you for your time and please don't hesitate to reply or call me with any questions,  
Colum Tinley, CRNA  
Discovery Garden  
License 416103  
360-301-9090

PDF

**RCW 69.50.342****State liquor and cannabis board—Rules.**

(1) For the purpose of carrying into effect the provisions of chapter 3, Laws of 2013 according to their true intent or of supplying any deficiency therein, the board may adopt rules not inconsistent with the spirit of chapter 3, Laws of 2013 as are deemed necessary or advisable. Without limiting the generality of the preceding sentence, the board is empowered to adopt rules regarding the following:

(a) The equipment and management of retail outlets and premises where cannabis is produced or processed, and inspection of the retail outlets and premises where cannabis is produced or processed;

(b) The books and records to be created and maintained by licensees, the reports to be made thereon to the board, and inspection of the books and records;

(c) Methods of producing, processing, and packaging cannabis, useable cannabis, cannabis concentrates, and cannabis-infused products; conditions of sanitation; safe handling requirements; approved pesticides and pesticide testing requirements; and standards of ingredients, quality, and identity of cannabis, useable cannabis, cannabis concentrates, and cannabis-infused products produced, processed, packaged, or sold by licensees;

(d) Security requirements for retail outlets and premises where cannabis is produced or processed, and safety protocols for licensees and their employees;

(e) Screening, hiring, training, and supervising employees of licensees;

(f) Retail outlet locations and hours of operation;

(g) Labeling requirements and restrictions on advertisement of cannabis, useable cannabis, cannabis concentrates, cannabis health and beauty aids, and cannabis-infused products for sale in retail outlets;

(h) Forms to be used for purposes of this chapter and chapter **69.51A** RCW or the rules adopted to implement and enforce these chapters, the terms and conditions to be contained in licenses issued under this chapter and chapter **69.51A** RCW, and the qualifications for receiving a license issued under this chapter and chapter **69.51A** RCW, including a criminal history record information check. The board may submit any criminal history record information check to the Washington state patrol and to the identification division of the federal bureau of investigation in order that these agencies may search their records for prior arrests and convictions of the individual or individuals who filled out the forms. The board must require fingerprinting of any applicant whose criminal history record information check is submitted to the federal bureau of investigation;

(i) Application, reinstatement, and renewal fees for licenses issued under this chapter and chapter **69.51A** RCW, and fees for anything done or permitted to be done under the rules adopted to implement and enforce this chapter and chapter **69.51A** RCW;

(j) The manner of giving and serving notices required by this chapter and chapter **69.51A** RCW or rules adopted to implement or enforce these chapters;

(k) Times and periods when, and the manner, methods, and means by which, licensees transport and deliver cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products within the state;

(l) Identification, seizure, confiscation, destruction, or donation to law enforcement for training purposes of all cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products produced, processed, sold, or offered for sale within this state which do not conform in all respects to the standards prescribed by this chapter or chapter **69.51A** RCW or the rules adopted to implement and enforce these chapters;

(m) The prohibition of any type of device used in conjunction with a cannabis vapor product and the prohibition of the use of any type of additive, solvent, ingredient, or compound in the production and processing of cannabis products, including cannabis vapor products, when the board determines,

following consultation with the department of health or any other authority the board deems appropriate, that the device, additive, solvent, ingredient, or compound may pose a risk to public health or youth access; and

(n) Requirements for processors to submit under oath to the department of health a complete list of all constituent substances and the amount and sources thereof in each cannabis vapor product, including all additives, thickening agents, preservatives, compounds, and any other substance used in the production and processing of each cannabis vapor product.

(2) Rules adopted on retail outlets holding medical cannabis endorsements must be adopted in coordination and consultation with the department.

(3) The board must adopt rules to perfect and expand existing programs for compliance education for licensed cannabis businesses and their employees. The rules must include a voluntary compliance program created in consultation with licensed cannabis businesses and their employees. The voluntary compliance program must include recommendations on abating violations of this chapter and rules adopted under this chapter.

[ **2022 c 16 § 63**; **2020 c 133 § 3**; **2019 c 394 § 4**; **2015 2nd sp.s. c 4 § 1601**; **2015 c 70 § 7**; **2013 c 3 § 9** (Initiative Measure No. 502, approved November 6, 2012).]

## NOTES:

**Intent—Finding—2022 c 16:** See note following RCW **69.50.101**.

**Findings—2020 c 133:** "The legislature finds that recent reports of lung illnesses associated with vapor products demand serious attention by the state in the interest of protecting public health and preventing youth access. While state law grants the liquor and cannabis board broad authority to regulate vapor products containing marijuana [cannabis], the legislature finds that risks to public health and youth access can be mitigated by clarifying that the board is granted specific authority to prohibit the use of any additive, solvent, ingredient, or compound in marijuana [cannabis] vapor product production and processing and to prohibit any device used in conjunction with a marijuana [cannabis] vapor product." [ **2020 c 133 § 1**.]

**Effective date—2020 c 133:** "This act is necessary for the immediate preservation of the public peace, health, or safety, or support of the state government and its existing public institutions, and takes effect immediately [March 25, 2020]." [ **2020 c 133 § 5**.]

**Findings—2019 c 394:** See note following RCW **69.50.563**.

**Findings—Intent—Effective dates—2015 2nd sp.s. c 4:** See notes following RCW **69.50.334**.

**Short title—Findings—Intent—References to Washington state liquor control board—Draft legislation—2015 c 70:** See notes following RCW **66.08.012**.

**Intent—2013 c 3 (Initiative Measure No. 502):** See note following RCW **69.50.101**.

PDF

**RCW 69.50.345****State liquor and cannabis board—Rules—Procedures and criteria. (Effective until July 1, 2024.)**

The board, subject to the provisions of this chapter, must adopt rules that establish the procedures and criteria necessary to implement the following:

(1) Licensing of cannabis producers, cannabis processors, and cannabis retailers, including prescribing forms and establishing application, reinstatement, and renewal fees.

(a) Application forms for cannabis producers must request the applicant to state whether the applicant intends to produce cannabis for sale by cannabis retailers holding medical cannabis endorsements and the amount of or percentage of canopy the applicant intends to commit to growing plants determined by the department under RCW 69.50.375 to be of a THC concentration, CBD concentration, or THC to CBD ratio appropriate for cannabis concentrates, useable cannabis, or cannabis-infused products sold to qualifying patients.

(b) The board must reconsider and increase limits on the amount of square feet permitted to be in production on July 24, 2015, and increase the percentage of production space for those cannabis producers who intend to grow plants for cannabis retailers holding medical cannabis endorsements if the cannabis producer designates the increased production space to plants determined by the department under RCW 69.50.375 to be of a THC concentration, CBD concentration, or THC to CBD ratio appropriate for cannabis concentrates, useable cannabis, or cannabis-infused products to be sold to qualifying patients. If current cannabis producers do not use all the increased production space, the board may reopen the license period for new cannabis producer license applicants but only to those cannabis producers who agree to grow plants for cannabis retailers holding medical cannabis endorsements. Priority in licensing must be given to cannabis producer license applicants who have an application pending on July 24, 2015, but who are not yet licensed and then to new cannabis producer license applicants. After January 1, 2017, any reconsideration of the limits on the amount of square feet permitted to be in production to meet the medical needs of qualifying patients must consider information contained in the medical cannabis authorization database established in RCW 69.51A.230;

(2) Determining, in consultation with the office of financial management, the maximum number of retail outlets that may be licensed in each county, taking into consideration:

(a) Population distribution;

(b) Security and safety issues;

(c) The provision of adequate access to licensed sources of cannabis concentrates, useable cannabis, and cannabis-infused products to discourage purchases from the illegal market; and

(d) The number of retail outlets holding medical cannabis endorsements necessary to meet the medical needs of qualifying patients. The board must reconsider and increase the maximum number of retail outlets it established before July 24, 2015, and allow for a new license application period and a greater number of retail outlets to be permitted in order to accommodate the medical needs of qualifying patients and designated providers. After January 1, 2017, any reconsideration of the maximum number of retail outlets needed to meet the medical needs of qualifying patients must consider information contained in the medical cannabis authorization database established in RCW 69.51A.230;

(3) Determining the maximum quantity of cannabis a cannabis producer may have on the premises of a licensed location at any time without violating Washington state law;

(4) Determining the maximum quantities of cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products a cannabis processor may have on the premises of a licensed location at any time without violating Washington state law;

(5) Determining the maximum quantities of cannabis concentrates, useable cannabis, and cannabis-infused products a cannabis retailer may have on the premises of a retail outlet at any time without violating Washington state law;



(6) In making the determinations required by this section, the board shall take into consideration:

(a) Security and safety issues;

(b) The provision of adequate access to licensed sources of cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products to discourage purchases from the illegal market; and

(c) Economies of scale, and their impact on licensees' ability to both comply with regulatory requirements and undercut illegal market prices;

(7) Determining the nature, form, and capacity of all containers to be used by licensees to contain cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products, and their labeling requirements;

(8) In consultation with the department of agriculture and the department, establishing classes of cannabis, cannabis concentrates, useable cannabis, and cannabis infused products according to grade, condition, cannabinoid profile, THC concentration, CBD concentration, or other qualitative measurements deemed appropriate by the board;

(9) Establishing reasonable time, place, and manner restrictions and requirements regarding advertising of cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products that are not inconsistent with the provisions of this chapter, taking into consideration:

(a) Federal laws relating to cannabis that are applicable within Washington state;

(b) Minimizing exposure of people under twenty-one years of age to the advertising;

(c) The inclusion of medically and scientifically accurate information about the health and safety risks posed by cannabis use in the advertising; and

(d) Ensuring that retail outlets with medical cannabis endorsements may advertise themselves as medical retail outlets;

(10) Specifying and regulating the time and periods when, and the manner, methods, and means by which, licensees shall transport and deliver cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products within the state;

(11) In consultation with the department and the department of agriculture, establishing accreditation requirements for testing laboratories used by licensees to demonstrate compliance with standards adopted by the board, and prescribing methods of producing, processing, and packaging cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products; conditions of sanitation; and standards of ingredients, quality, and identity of cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products produced, processed, packaged, or sold by licensees;

(12) Specifying procedures for identifying, seizing, confiscating, destroying, and donating to law enforcement for training purposes all cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products produced, processed, packaged, labeled, or offered for sale in this state that do not conform in all respects to the standards prescribed by this chapter or the rules of the board.

[ **2022 c 16 § 64**; **2019 c 393 § 2**; **2018 c 43 § 2**; **2015 c 70 § 8**; **2013 c 3 § 10** (Initiative Measure No. 502, approved November 6, 2012).]

## NOTES:

**Expiration date—2022 c 16 §§ 64 and 67:** "Sections 64 and 67 of this act expire July 1, 2024." [ **2022 c 16 § 173**.]

**Intent—Finding—2022 c 16:** See note following RCW **69.50.101**.

**Effective date—2019 c 393:** "This act takes effect January 1, 2020." [ **2019 c 393 § 6**.]

**Intent—2019 c 393:** See note following RCW **69.50.346**.

**Short title—Findings—Intent—References to Washington state liquor control board—Draft legislation—2015 c 70:** See notes following RCW **66.08.012**.

**Intent—2013 c 3 (Initiative Measure No. 502):** See note following RCW **69.50.101**.

**PDF** **RCW 69.50.345**

**State liquor and cannabis board—Rules—Procedures and criteria. (*Effective July 1, 2024.*)**

The board, subject to the provisions of this chapter, must adopt rules that establish the procedures and criteria necessary to implement the following:

(1) Licensing of cannabis producers, cannabis processors, and cannabis retailers, including prescribing forms and establishing application, reinstatement, and renewal fees.

(a) Application forms for cannabis producers must request the applicant to state whether the applicant intends to produce cannabis for sale by cannabis retailers holding medical cannabis endorsements and the amount of or percentage of canopy the applicant intends to commit to growing plants determined by the department under RCW **69.50.375** to be of a THC concentration, CBD concentration, or THC to CBD ratio appropriate for cannabis concentrates, useable cannabis, or cannabis-infused products sold to qualifying patients.

(b) The board must reconsider and increase limits on the amount of square feet permitted to be in production on July 24, 2015, and increase the percentage of production space for those cannabis producers who intend to grow plants for cannabis retailers holding medical cannabis endorsements if the cannabis producer designates the increased production space to plants determined by the department under RCW **69.50.375** to be of a THC concentration, CBD concentration, or THC to CBD ratio appropriate for cannabis concentrates, useable cannabis, or cannabis-infused products to be sold to qualifying patients. If current cannabis producers do not use all the increased production space, the board may reopen the license period for new cannabis producer license applicants but only to those cannabis producers who agree to grow plants for cannabis retailers holding medical cannabis endorsements. Priority in licensing must be given to cannabis producer license applicants who have an application pending on July 24, 2015, but who are not yet licensed and then to new cannabis producer license applicants. After January 1, 2017, any reconsideration of the limits on the amount of square feet permitted to be in production to meet the medical needs of qualifying patients must consider information contained in the medical cannabis authorization database established in RCW **69.51A.230**;

(2) Determining, in consultation with the office of financial management, the maximum number of retail outlets that may be licensed in each county, taking into consideration:

(a) Population distribution;

(b) Security and safety issues;

(c) The provision of adequate access to licensed sources of cannabis concentrates, useable cannabis, and cannabis-infused products to discourage purchases from the illegal market; and

(d) The number of retail outlets holding medical cannabis endorsements necessary to meet the medical needs of qualifying patients. The board must reconsider and increase the maximum number of retail outlets it established before July 24, 2015, and allow for a new license application period and a greater number of retail outlets to be permitted in order to accommodate the medical needs of qualifying patients and designated providers. After January 1, 2017, any reconsideration of the maximum number of retail outlets needed to meet the medical needs of qualifying patients must consider information contained in the medical cannabis authorization database established in RCW **69.51A.230**;

(3) Determining the maximum quantity of cannabis a cannabis producer may have on the premises of a licensed location at any time without violating Washington state law;

(4) Determining the maximum quantities of cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products a cannabis processor may have on the premises of a licensed location at any time without violating Washington state law;

(5) Determining the maximum quantities of cannabis concentrates, useable cannabis, and cannabis-infused products a cannabis retailer may have on the premises of a retail outlet at any time without violating Washington state law;

(6) In making the determinations required by this section, the board shall take into consideration:

(a) Security and safety issues;

(b) The provision of adequate access to licensed sources of cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products to discourage purchases from the illegal market; and

(c) Economies of scale, and their impact on licensees' ability to both comply with regulatory requirements and undercut illegal market prices;

(7) Determining the nature, form, and capacity of all containers to be used by licensees to contain cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products, and their labeling requirements;

(8) In consultation with the department of agriculture and the department, establishing classes of cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products according to grade, condition, cannabinoid profile, THC concentration, CBD concentration, or other qualitative measurements deemed appropriate by the board;

(9) Establishing reasonable time, place, and manner restrictions and requirements regarding advertising of cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products that are not inconsistent with the provisions of this chapter, taking into consideration:

(a) Federal laws relating to cannabis that are applicable within Washington state;

(b) Minimizing exposure of people under twenty-one years of age to the advertising;

(c) The inclusion of medically and scientifically accurate information about the health and safety risks posed by cannabis use in the advertising; and

(d) Ensuring that retail outlets with medical cannabis endorsements may advertise themselves as medical retail outlets;

(10) Specifying and regulating the time and periods when, and the manner, methods, and means by which, licensees shall transport and deliver cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products within the state;

(11) In consultation with the department and the department of agriculture, prescribing methods of producing, processing, and packaging cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products; conditions of sanitation; and standards of ingredients, quality, and identity of cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products produced, processed, packaged, or sold by licensees;

(12) Specifying procedures for identifying, seizing, confiscating, destroying, and donating to law enforcement for training purposes all cannabis, cannabis concentrates, useable cannabis, and cannabis-infused products produced, processed, packaged, labeled, or offered for sale in this state that do not conform in all respects to the standards prescribed by this chapter or the rules of the board.

[ **2022 c 16 § 65**. Prior: **2019 c 393 § 2**; **2019 c 277 § 6**; **2018 c 43 § 2**; **2015 c 70 § 8**; **2013 c 3 § 10** (Initiative Measure No. 502, approved November 6, 2012).]

## NOTES:

**Effective date—2022 c 16 §§ 65 and 68:** "Sections 65 and 68 of this act take effect July 1, 2024." [ **2022 c 16 § 174**.]

**Intent—Finding—2022 c 16:** See note following RCW **69.50.101**.



**Effective date—2019 c 393:** "This act takes effect January 1, 2020." [ **2019 c 393 § 6.**]

**Intent—2019 c 393:** See note following RCW **69.50.346.**

**Effective date—2019 c 277 §§ 2 and 6:** See note following RCW **69.50.348.**

**Short title—Findings—Intent—References to Washington state liquor control board—  
Draft legislation—2015 c 70:** See notes following RCW **66.08.012.**

**Intent—2013 c 3 (Initiative Measure No. 502):** See note following RCW **69.50.101.**

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**WAC 314-55-102****Quality assurance and quality control.**

(1) **Lab certification and accreditation for quality control testing.** To become certified, a third-party lab must meet the board's certification and accreditation requirements as described in WAC **314-55-0995** and this chapter before conducting quality control tests required under this section.

(a) Certified labs must be certified to conduct the following fields of testing:

- (i) Water activity;
- (ii) Potency analysis;
- (iii) Foreign matter inspection;
- (iv) Microbiological screening;
- (v) Mycotoxin screening;
- (vi) Pesticide screening; and
- (vii) Residual solvent screening.

(b) Certified labs may be certified for heavy metal testing. Certified labs must comply with the guidelines for each quality control field of testing described in this chapter if they offer that testing service.

(c) Certified labs may reference samples for mycotoxin, heavy metal, or pesticide testing by subcontracting for those fields of testing.

(2) **General quality control testing requirements for certified labs.**

(a) Certified labs must record an acknowledgment of the receipt of samples from producers or processors. Certified labs must also verify if any unused portion of the sample is destroyed after the completion of required testing.

(b) Certified labs must report quality control test results directly to the board in the required format.

(c) Product must not be converted, transferred, or sold by the licensee until the required tests are reported to the board and the licensee.

(d) Certified labs must fail a sample if the results for any limit test are above allowable levels regardless of whether the limit test is required in the testing tables in this chapter.

(e) Certified labs must test samples on an "as is" or "as received" basis.

(f) For the purposes of this section, limits have been written to the number of significant digits that laboratories are expected to use when reporting to the board and on associated certificates of analysis.

(3) **Quality control analysis and screening.** The following analysis and screening are only required for samples that have not been previously tested, or that have failed quality control testing.

(a) **Potency analysis.**

(i) Certified labs must test and report the following cannabinoids to the board when testing for potency:

(A)

<b>Cannabinoid</b>	<b>Lower Limit of Quantitation (mg/g)</b>	<b>CAS #</b>
CBD	1.0	13956-29-1
CBDA	1.0	1244-58-2
$\Delta^9$ -THC	1.0	1972-08-3
$\Delta^9$ -THCA	1.0	23978-85-0

(B) Total THC;

(C) Total CBD.

(ii) Calculating total THC and total CBD.

(A) Total THC must be calculated as follows, where M is the mass or mass fraction of delta-9 THC or delta-9 THCA:  $M \text{ total delta-9 THC} = M \text{ delta-9 THC} + (0.877 \times M \text{ delta-9 THCA})$ .

(B) Total CBD must be calculated as follows, where M is the mass or mass fraction of CBD and CBDA:  $M \text{ total CBD} = M \text{ CBD} + (0.877 \times M \text{ CBDA})$ .

(iii) Regardless of analytical equipment or methodology, certified labs must accurately measure and report the acidic (THCA and CBDA) and neutral (THC and CBD) forms of the cannabinoids.

(b) **Water activity testing.** The sample fails quality control testing for water activity if the results exceed the following limits:

(i) Water activity rate of more than  $0.65 a_w$  for useable cannabis;

(ii) Water activity rate of more than  $0.85 a_w$  for solid edible products.

(c) **Foreign matter screening.** The sample fails quality control testing for foreign matter screening if the results exceed the following limits:

(i) Five percent of stems 3 mm or more in diameter; or

(ii) Two percent of seeds or other foreign matter; or

(iii) One insect fragment, one hair, or one mammalian excreta in sample.

(d) **Microbiological screening.** The sample and the related population fails quality control testing for microbiological screening if the results exceed the following limits:

Unprocessed Plant Material	Colony Forming Unit per Gram (CFU/g)
Bile Tolerant Gram Negative bacteria (BTGN)	$1.0 \times 10^4$
Shiga toxin-producing Escherichia coli (STEC)	<1
Salmonella spp.	<1
Processed Plant Material	Colony Forming Unit per Gram (CFU/g)
Bile Tolerant Gram Negative bacteria (BTGN)	$1.0 \times 10^3$
Shiga toxin-producing Escherichia coli (STEC)	<1
Salmonella spp.	<1

(e) **Mycotoxin screening.** The sample and the related population fails quality control testing if the results exceed the following limits:

Mycotoxin	µg/kg	CAS #
Aflatoxins (Sum of Isomers)	20.	
• Aflatoxin B1		1162-65-8
• Aflatoxin B2		7220-81-7
• Aflatoxin G1		1165-39-5
• Aflatoxin G2		7241-98-7
Ochratoxin A	20.	303-47-9

(f) **Residual solvent screening.** Except as otherwise provided in this subsection, a sample and the related population fails quality control testing for residual solvents if the results exceed the limits provided in the table below. Residual solvent results of more than 5,000 ppm for class three solvents, 50 ppm for class two solvents, and 2 ppm for any class one solvents as defined in *United States Pharmacopoeia USP 30 Chemical Tests / <467> - Residual Solvents (USP <467>)* not listed in the table below fail quality control testing. When residual solvent screening is required, certified labs must test for the solvents listed in the table below at a minimum.

Solvent	µg/g	ppm (simplified)	CAS #
Acetone	$5.0 \times 10^3$	5000	67-64-1
Benzene	2.0	2	71-43-2
Butanes (Sum of Isomers)	$5.0 \times 10^3$	5000	
• n-butane			106-97-8
• 2-methylpropane (isobutane)			75-28-5
Cyclohexane	$3.9 \times 10^3$	3880	110-82-7
Chloroform	2.0	2	67-66-3
Dichloromethane	$6.0 \times 10^2$	600	75-09-2
Ethanol	$5.0 \times 10^3$	5000	64-17-5
Ethyl acetate	$5.0 \times 10^3$	5000	141-78-6
Heptanes (Single Isomer)	$5.0 \times 10^3$	5000	
• n-heptane			142-82-5
Hexanes (Sum of Isomers)	$2.9 \times 10^2$	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)	$5.0 \times 10^3$	5000	67-63-0
Methanol	$3.0 \times 10^3$	3000	67-56-1
Pentanes (Sum of Isomers)	$5.0 \times 10^3$	5000	
• n-pentane			109-66-0
• methylbutane (isopentane)			78-78-4
• dimethylpropane (neopentane)			463-82-1
Propane	$5.0 \times 10^3$	5000	74-98-6
Toluene	$8.9 \times 10^2$	890	108-88-3
Xylenes (Sum of Isomers)	$2.2 \times 10^3$	2170	
• 1,2-dimethylbenzene (ortho-)			95-47-6
• 1,3-dimethylbenzene (meta-)			108-38-3
• 1,4-dimethylbenzene (para-)			106-42-3

(g) **Heavy metal screening.** Heavy metal screening is required for all DOH compliant product as described in chapter **246-70** WAC. Heavy metal screening is optional for non-DOH compliant product; however, heavy metal limits provided below apply to all products. Any product exceeding the provided limits is subject to recall and destruction. The board may conduct random or investigation driven heavy metal screening for compliance. A sample and related quantity of product fail quality control testing for heavy metals if the results exceed the limits provided in the table below.

Metal	µg/g
Arsenic	2.0

Cadmium	0.82
Lead	1.2
Mercury	0.40

(h) **Pesticide screening.** For purposes of pesticide screening, a sample and the related quantity of cannabis is considered to have passed if it meets the standards described in WAC 314-55-108 and applicable department of agriculture rules.

(4) **Required quality control tests.** The following quality control tests are required for each of the cannabis products described below. Licensees and certified labs may opt to perform additional quality control tests on the same sample.

(a) **Cannabis flower.** Cannabis flower requires the following quality control tests:

Product	Test(s) Required
Cannabis flower	1. Water activity testing 2. Potency analysis 3. Foreign matter inspection 4. Microbiological screening 5. Mycotoxin screening 6. Pesticide screening

(b) If cannabis flower will be sold as useable flower, no further testing is required.

(c) **Intermediate products.** Intermediate products must meet the following requirements related to quality control testing:

(i) All intermediate products must be homogenized prior to quality assurance testing;

(ii) For the purposes of this section, a batch is defined as a single run through the extraction or infusion process;

(iii) Cannabis mix must be chopped or ground so no particles are greater than 3 mm; and

(iv) Intermediate products require the following quality assurance tests:

Intermediate Product Type	Tests Required
Cannabis mix	1. Water activity testing 2. Potency analysis 3. Foreign matter inspection 4. Microbiological screening 5. Mycotoxin screening 6. Pesticide screening
Concentrate or extract made with hydrocarbons (solvent based made using n-butane, isobutane, propane, heptane, or other solvents or gases approved by the board of at least 99% purity)	1. Potency analysis 2. Mycotoxin screening 3. Residual solvent test 4. Pesticide screening
Concentrate or extract made with a	1. Potency analysis 2. Mycotoxin screening

CO <sub>2</sub> extractor like hash oil	3. Residual solvent test 4. Pesticide screening
Concentrate or extract made with ethanol	1. Potency analysis 2. Mycotoxin screening 3. Residual solvent test 4. Pesticide screening
Concentrate or extract made with approved food grade solvent	1. Potency analysis 2. Microbiological screening 3. Mycotoxin screening 4. Residual solvent test 5. Pesticide screening
Concentrate or extract (nonsolvent) such as kief, hash, rosin, or bubble hash	1. Potency analysis 2. Microbiological screening 3. Mycotoxin screening 4. Pesticide screening
Infused cooking oil or fat in solid form	1. Potency analysis 2. Microbiological screening 3. Mycotoxin screening 4. Pesticide screening

(d) **End products.** All cannabis, cannabis-infused products, cannabis concentrates, cannabis mix packaged, and cannabis mix infused sold from a processor to a retailer require the following quality assurance tests:

End Product Type	Tests Required
Infused solid edible	1. Potency analysis 2. Water activity testing
Infused liquid (like a soda or tonic)	1. Potency analysis
Infused topical	1. Potency analysis
Cannabis mix packaged (loose or rolled)	1. Potency analysis
Cannabis mix infused (loose or rolled)	1. Potency analysis
Concentrate or cannabis-infused product for inhalation	1. Potency analysis

(e) End products consisting of only one intermediate product that has not been changed in any way are not subject to potency analysis.

(5) Useable flower, a batch of cannabis concentrate, or a batch of cannabis-infused product may not be sold until the completion and successful passage of required quality control testing, except:

(a) Licensees may wholesale and transfer batches or quantities of cannabis flower and other material that will be extracted, and cannabis mix and nonsolvent extracts, for the purposes of further extraction prior to completing required quality control testing.

(b) Business entities with multiple locations licensed under the same UBI number may transfer cannabis products between the licensed locations under the same UBI number prior to quality control testing.

(c) Licensees may wholesale and transfer failed batches or quantities of cannabis flower to be extracted pursuant to subsection (6) of this section, unless failed for tests that require immediate destruction.

**(6) Failed test samples.**

(a) Upon approval by the board, failed quantities of cannabis or batches may be used to create extracts. After processing, the extract must pass all quality control tests required in this section before it may be sold, unless failed for tests that require immediate destruction.

(b) Retesting. A producer or processor must request retesting. The board may authorize the retest to validate a failed test result on a case-by-case basis. The producer or the processor requesting the retest must pay for the cost of all retesting.

(c) Remediation. Remediation is a process or technique applied to quantities of cannabis flower, lots, or batches. Remediation may occur after the first failure, depending on the failure, or if a retest process results in a second failure. Pesticide failures may not be remediated.

(i) Producers and processors may remediate failed cannabis flower, lots, or batches so long as the remediation method does not impart any toxic or harmful substance to the useable cannabis, cannabis concentrates, or cannabis-infused product. Remediation solvents or methods used on the cannabis product must be disclosed to:

(A) A licensed processor;

(B) The producer or producer/processor who transfers the cannabis products;

(C) A licensed retailer carrying cannabis products derived from the remediated cannabis flower, lot, or batch; or

(D) The consumer upon request.

(ii) The entire quantity of cannabis from which the failed sample(s) were deducted must be remediated.

(iii) No remediated quantity of cannabis may be sold or transported until quality control testing consistent with the requirements of this section is completed.

(iv) If a failed quantity of remediated cannabis is not remediated or reprocessed in any way after a first failure, it cannot be retested. Any subsequent certificates of analysis produced without remediation or reprocessing of the failed quantity of cannabis will not supersede the original compliance testing certificate of analysis.

**(7) Referencing.** Certified labs may reference samples for mycotoxins, heavy metals, and pesticides testing to other certified labs by subcontracting for those fields of testing. Labs must record all referencing to other labs on a chain-of-custody manifest that includes, but is not limited to, the following information: Lab name, certification number, transfer date, address, contact information, delivery personnel, sample ID numbers, field of testing, and receiving personnel.

(8) Certified labs are not limited in the amount of useable cannabis and cannabis products they may have on their premises at any given time, but a certified lab must have records proving all cannabis and cannabis-infused products in the certified lab's possession are held only for the testing purposes described in this chapter.

(9) A certificate of analysis issued by a certified lab for any cannabis product subject to the requirements of this chapter that has not already been transferred to a retail location expires 12 calendar months after issuance.

(10) The board, or its designee, may request that a licensee or a certified lab provide an employee of the board or their designee samples of cannabis or cannabis products, or samples of the growing medium, soil amendments, fertilizers, crop production aids, pesticides, or water for random or

investigatory compliance checks. Samples may be randomly screened and used for other quality control tests deemed necessary by the board.

(11) All cannabis products produced, processed, distributed, or sold after the effective date of these rules, must comply with these rules and this chapter; however, postharvest products in the possession of or being processed by a licensee that do not comply with these rules as of their effective date may be sold, distributed, or both within a reasonable period of time, determined by the board.

[Statutory Authority: RCW **69.50.342** and 2022 c 16 § 168. WSR 22-14-111, § 314-55-102, filed 7/6/22, effective 8/6/22. Statutory Authority: RCW **69.50.345** and **69.50.348**. WSR 22-06-097, § 314-55-102, filed 3/2/22, effective 4/2/22. Statutory Authority: RCW **69.50.342** and **69.50.345**. WSR 17-12-032, § 314-55-102, filed 5/31/17, effective 8/31/17; WSR 16-11-110, § 314-55-102, filed 5/18/16, effective 6/18/16; WSR 15-11-107, § 314-55-102, filed 5/20/15, effective 6/20/15; WSR 14-07-116, § 314-55-102, filed 3/19/14, effective 4/19/14. Statutory Authority: RCW **69.50.325**, **69.50.331**, **69.50.342**, **69.50.345**. WSR 13-21-104, § 314-55-102, filed 10/21/13, effective 11/21/13.]



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**WAC 314-55-104****Marijuana processor license extraction requirements.**

(1) Processors are limited to the methods, equipment, solvents, gases, and mediums detailed in this section when creating marijuana extracts.

(2) Processors may use the hydrocarbons N-butane, isobutane, propane, or heptane. These solvents must be of at least ninety-nine percent purity and a processor must use them in a professional grade closed loop extraction system designed to recover the solvents, work in an environment with proper ventilation, controlling all sources of ignition where a flammable atmosphere is or may be present.

(3) Processors may use a professional grade closed loop CO<sub>2</sub> gas extraction system where every vessel is rated to a minimum of six hundred pounds per square inch. The CO<sub>2</sub> must be of at least ninety-nine percent purity.

(4) Closed loop systems for hydrocarbon or CO<sub>2</sub> extraction systems must be commercially manufactured and bear a permanently affixed and visible serial number.

(5) Certification from a licensed engineer must be provided to the WSLCB for professional grade closed loop systems used by processors to certify that the system was commercially manufactured, safe for its intended use, and built to codes of recognized and generally accepted good engineering practices, such as:

- (a) The American Society of Mechanical Engineers (ASME);
- (b) American National Standards Institute (ANSI);
- (c) Underwriters Laboratories (UL); or
- (d) The American Society for Testing and Materials (ASTM).

(6) The certification document must contain the signature and stamp of a professional engineer and the serial number of the ex-traction unit being certified.

(7) Professional grade closed loop systems, and other equipment used must be approved for specific use or the technical report must be approved by the state building code officials prior to use per **WAC 51-54A-3800**.

(8) Professional closed loop systems, other equipment used, the extraction operation, and facilities must be approved for their use by the local fire code official and meet any required fire, safety, and building code requirements specified in:

- (a) Title 296 WAC;
- (b) Chapters **51-51** and **51-54A** WAC;
- (c) National Fire Protection Association (NFPA) standards;
- (d) International Building Code (IBC);
- (e) International Fire Code (IFC); and
- (f) Other applicable standards including following all applicable fire, safety, and building codes in processing and the handling and storage of the solvent or gas.

(9) Processors may use heat, screens, presses, steam distillation, ice water, and other methods without employing solvents or gases to create kief, hashish, bubble hash, or infused dairy butter, or oils or fats derived from natural sources, and other extracts.

(10) Under **WAC 314-55-077**, infused dairy butter and oils or fats derived from natural sources may be used to prepare infused edible products, but they may not be prepared as stand-alone edible products for sale.

(11) Processors may use food grade glycerin, ethanol, and propylene glycol solvents to create extracts. All ethanol must be removed from the extract in a manner to recapture the solvent and ensure that it is not vented into the atmosphere.

(12) Processors creating marijuana extracts must develop standard operating procedures, good manufacturing practices, and a training plan prior to producing extracts for the marketplace. Any person

using solvents or gases in a closed looped system to create marijuana extracts must be fully trained on how to use the system, have direct access to applicable material safety data sheets and handle and store the solvents and gases safely.

(13) Parts per million for one gram of finished extract cannot exceed residual solvent or gas levels provided in WAC 314-55-102.

[Statutory Authority: RCW **69.50.325**, **69.50.342**, **69.50.345**, and **69.50.369**. WSR 18-22-055, § 314-55-104, filed 10/31/18, effective 12/1/18. Statutory Authority: RCW **69.50.342** and **69.50.345**. WSR 16-11-110, § 314-55-104, filed 5/18/16, effective 6/18/16; WSR 15-11-107, § 314-55-104, filed 5/20/15, effective 6/20/15; WSR 14-10-044, § 314-55-104, filed 4/30/14, effective 5/31/14. Statutory Authority: RCW **69.50.325**, **69.50.331**, **69.50.342**, **69.50.345**. WSR 13-21-104, § 314-55-104, filed 10/21/13, effective 11/21/13.]