R 100 Series – General Applicability

Basis and Purpose – R 103

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b) and 12-43.4-202(3)(b)(IX), C.R.S., section 12-43.4-103, and all of the Retail Code. The purpose of this rule is to provide necessary definitions of terms used throughout the rules. Defined terms are capitalized where they appear in the rules, to let the reader know to refer back to these definitions. When a term is used in a conventional sense, and not intended to be a defined term, it is not capitalized.

R 103 – Definitions

Definitions. The following definitions of terms, in addition to those set forth in section 12-43.4-103, C.R.S., shall apply to all rules promulgated pursuant to the Retail Code, unless the context requires otherwise:

“Additive” means any substance added to Retail Marijuana Product that is not a common baking or cooking item.

“Batch Number” means any distinct group of numbers, letters, or symbols, or any combination thereof, assigned by a Retail Marijuana Cultivation Facility or Retail Marijuana Products Manufacturer to a specific Harvest Batch or Production Batch of Retail Marijuana.

“Cannabinoid” means any of the chemical compounds that are the active principles of marijuana.

“Edible Retail Marijuana Product” means any Retail Marijuana Product which is intended to be consumed orally, including but not limited to, any type of food, drink, or pill.

“Flammable Solvent” means a liquid that has a flash point below 100 degrees Fahrenheit.

“Flowering” means the reproductive state of Cannabis in which the plant is in a light cycle intended to stimulate production of flowers, trichromes, and Cannabinoids characteristic of marijuana.

“Food-Based Retail Marijuana Concentrate” means a Retail Marijuana Concentrate that was produced by extracting Cannabinoids from Retail Marijuana through the use of propylene glycol, glycerin, butter, olive oil or other typical cooking fats.

“Harvest Batch” means a specifically identified quantity of processed Retail Marijuana that is uniform in strain, cultivated utilizing the same Pesticide and other agricultural chemicals and harvested at the same time.
“Harvested Marijuana” means post-Flowering Retail Marijuana not including trim, concentrate or waste that remains on the premises of the Retail Marijuana Cultivation Facility or its off-premises storage location beyond 60 days from harvest.

“Heat/Pressure Concentrate” means [take from other working group rule]

“Immature plant” means a nonflowering Retail Marijuana plant that is no taller than eight inches and no wider than eight inches produced from a cutting, clipping or seedling and is in a cultivating container. Plants meeting these requirements are not attributable to a Licensee’s maximum allowable plant count, but must be fully accounted for in the Inventory Tracking System.

“Industrial Hemp” means a plant of the genus Cannabis and any part of the plant, whether growing or not, containing a delta-9 tetrahydrocannabinol (THC) concentration of no more than three-tenths of one percent (0.3%) on a dry weight basis.

“Industrial Hygienist” means an individual who has obtained a baccalaureate or graduate degree in industrial hygiene, biology, chemistry, engineering, physics, or a closely related physical or biological science from and accredited college or university.

a. The special studies and training of such individuals shall be sufficient in the cognate sciences to provide the ability and competency to:

1. Anticipate and recognize the environmental factors and stresses associated with work and work operations and to understand their effects on individuals and their well-being;

2. Evaluate on the basis of training and experience and with the aid of quantitative measurement techniques the magnitude of such environmental factors and stresses in terms of their ability to impair human health and well-being;

3. Prescribe methods to prevent, eliminate, control, or reduce such factors and stresses and their effects.

b. Any individual who has practiced within the scope of the meaning of industrial hygiene for a period of not less than five years immediately prior to July 1, 1997, is exempt from the degree requirements set forth in the definition above.

c. Any individual who has a two-year associate of applied science degree in environmental science from an accredited college or university and in addition not less than four years practice immediately prior to July 1, 1997, within the scope of the meaning of industrial hygiene is exempt from the degree requirements set forth in the definition above.

“Licensed Premises” means the premises specified in an application for a license pursuant to the Retail Code that are owned or in possession of the Licensee and within which the Licensee is authorized to cultivate, manufacture, distribute, sell, store, transport, or test Retail Marijuana in accordance with the provisions of the Retail Code and these rules.
“Limited Access Area” means a building, room, or other contiguous area upon the Licensed Premises where Retail Marijuana is grown, cultivated, stored, weighed, packaged, sold, or processed for sale, under control of the Licensee.

“Limit of Detection” or “LOD” means the lowest quantity of a substance that can be distinguished from the absence of that substance (a blank value) within a stated confidence limit (generally 1%).

“Limit of Quantitation” or “LOQ” means the lowest concentration at which the analyte can not only be reliably detected but at which some predefined goals for bias and imprecision are met.

“Liquid Edible Retail Marijuana Product” means an Edible Retail Marijuana Product that is a liquid beverage or food-based product and intended to be consumed orally, such as a soft drink or cooking sauce.

“Material Change” means any change that would require a substantive revision to a Retail Marijuana Establishment’s standard operating procedures for the cultivation of Retail Marijuana or the production of a Retail Marijuana Concentrate or Retail Marijuana Product.

“Medical Marijuana Concentrate” means a specific subset of Medical Marijuana that was produced by extracting cannabinoids from Medical Marijuana. Categories of Medical Marijuana Concentrate include Water-Based Medical Marijuana Concentrate, Food-Based Medical Marijuana Concentrate, Heat/Pressure Concentrate and Solvent-Based Medical Marijuana Concentrate.

“Medical Marijuana-Infused Product” means a product infused with Medical Marijuana that is intended for use or consumption other than by smoking, including but not limited to edible product, ointments, and tinctures. Such products shall not be considered a food or drug for purposes of the “Colorado Food and Drug Act,” part 4 of Article 5 of Title 25, C.R.S.

“Medical Marijuana-Infused Products Manufacturer” means a Person licensed pursuant to the Medical Code to operate a business as described in section 12-43.3-404, C.R.S.

“Medical Marijuana Testing Facility” means a public or private laboratory licensed and certified, or approved by the Division, to conduct research and analyze Medical Marijuana, Medical Marijuana-Infused Products, and Medical Marijuana Concentrate for contaminants and potency.

“Multiple-Serving Edible Retail Marijuana Product” means an Edible Retail Marijuana Product unit for sale to consumers containing more than 10mg of active THC and no more than 100mg of active THC. If the overall Edible Retail Marijuana Product unit for sale to the consumer consists of multiple pieces where each individual piece may contain less than 10mg active THC, yet in total all pieces combined within the unit for sale contain more than 10mg of active THC, then the Edible Retail Marijuana Product shall be considered a Multiple-Serving Edible Retail Marijuana Product.

“Pesticide” means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest or any substance or mixture of substances intended for use as a plant regulator,
defoliant or desiccant; except that the term “pesticide” shall not include any article that is a “new animal drug” as designated by the United States Food and Drug Administration.

“Production Batch” means (a) any amount of Retail Marijuana Concentrate of the same category and produced using the same extraction methods, standard operating procedures and an identical group of Harvest Batch(es) of Retail Marijuana; or (b) any amount of Retail Marijuana Product of the same exact type, produced using the same ingredients, standard operating procedures and the same Production Batch(es) of Retail Marijuana Concentrate.

“Professional Engineer” means an individual who is licensed by the State of Colorado as a professional engineer pursuant to 12-25-101 et. seq., C.R.S.

“Proficiency Testing Samples” means performing the same analyses on the same samples and comparing results to ensure the Samples are homogenous and stable, and also that the set of samples analyzed are appropriate to test and display similarities and differences in results an assessment of the performance of a licensed Retail Marijuana Testing Facility’s methodology and processes. The goal of Proficiency Testing is to ensure results are reproducible and consistent.

“Propagation” means the reproduction of Retail Marijuana plants by seeds, cuttings or grafting.

“Remediation” means the process by which marijuana flower or trim, which has failed microbial testing, is concentrated processed into a Solvent-Based Retail Marijuana Concentrate and retested as required by these rules to remove such contamination.

“Restricted Access Area” means a designated and secure area within a Licensed Premises in a Retail Marijuana Store where Retail Marijuana and Retail Marijuana Product are sold, possessed for sale, and displayed for sale, and where no one under the age of 21 is permitted.

“Retail Marijuana Concentrate” means a specific subset of Retail Marijuana that was produced by extracting cannabinoid(s) from Retail Marijuana. Categories of Retail Marijuana Concentrate include Water-Based Retail Marijuana Concentrate, Food-Based Retail Marijuana Concentrate, Heat/Pressure Concentrate and Solvent-Based Retail Marijuana Concentrate.

“Retail Marijuana Cultivation Facility” means an entity licensed to cultivate, prepare, and package Retail Marijuana and sell Retail Marijuana to Retail Marijuana Establishments, but not to consumers.

“Retail Marijuana Product” means a product that is comprised of Retail Marijuana and other ingredients and is intended for use or consumption, such as, but not limited to, edible product, ointments and tinctures.

“Retail Marijuana Testing Facility” means a public or private laboratory licensed and certified, or approved by the Division, to conduct research and analyze Retail Marijuana, Retail Marijuana Products and Retail Marijuana Concentrate for contaminants and potency.
“Sample” means anything collected from a Retail Marijuana Establishment or Medical Marijuana Business that is provided to a Retail Marijuana Testing Facility for testing. The following is a non-exhaustive list of types of Samples: Retail Marijuana, Retail Marijuana Product, Retail Marijuana Concentrate, Medical Marijuana, Medical Marijuana-Infused Product, Medical Marijuana Concentrate, soil, growing medium, water, solvent or swab of a counter or equipment.

“Single-Serving Edible Retail Marijuana Product” means an Edible Retail Marijuana Product unit for sale to consumers containing no more than 10mg of active THC.

“Solvent-Based Retail Marijuana Concentrate” means a Retail Marijuana Concentrate that was produced by extracting cannabinoids from Retail Marijuana through the use of a solvent approved by the Division pursuant to Rule R 605.

“Standardized Serving Of Marijuana” means a standardized single serving of active THC. The size of a Standardized Serving Of Marijuana shall be no more than 10mg of active THC.

“THC” means tetrahydrocannabinol.

“THCA” means tetrahydrocannabinolic acid.

“Test Batch” means a group of Samples that are collectively submitted to a Retail Marijuana Testing Facility for testing purposes. A Test Batch may not be a combination of any two or three of the following: Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product.

“Transfer” means to grant, convey, hand over, assign, sell, exchange, donate, or barter, in any manner or by any means, with or without consideration, any Retail Marijuana or Retail Marijuana Product from one licensee to another licensee or to a consumer. A Transfer includes the movement of Retail Marijuana or Retail Marijuana Product from one licensed premises to another, even if both premises are contiguous, and even if both premises are owned by a single entity or individual or group of individuals and also includes a virtual transfer that is reflected on the Inventory Tracking System, even if no physical movement of the Retail Marijuana or Retail Marijuana Product occurs.

“Unrecognizable” means marijuana or Cannabis plant material rendered indistinguishable from any other plant material.

“Vegetative” means the state of the Cannabis plant during which plants do not produce resin or flowers and are bulking up to a desired production size for Flowering.

“Water-Based Retail Marijuana Concentrate” means a Retail Marijuana Concentrate that was produced by extracting cannabinoids from Retail Marijuana through the use of only water, ice or dry ice.
R 400 Series – Retail Marijuana Stores

Basis and Purpose – R 406

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(X), 12-43.4-202(3)(a)(XI), 12-43.4-202(3)(a)(XII), and 12-43.4-202(3)(b)(IX), C.R.S. Authority also exists in the Colorado Constitution at Article XVIII, Subsection 16(5)(a)(VII). It sets forth general standards and basic sanitary requirements for Retail Marijuana Stores. It covers the physical premises where the products are made as well as the individuals handling the products. This rule also authorizes the State Licensing Authority to require an independent consultant to conduct a health and sanitary audit of a Retail Marijuana Store. This rule explains when an independent health and sanitary audit may be deemed necessary and sets forth possible consequences of a Retail Marijuana Establishment’s refusal to cooperate or pay for the audit. The State Licensing Authority intends for this rule to reduce any product contamination, which will benefit both the Licensees and consumers. The State Licensing Authority modeled this rule after those adopted by the Colorado Department Revenue for Medical Marijuana and those adopted by the Colorado Department of Public Health and Environment. Overall, the State Licensing Authority intends this rule to help maintain the integrity of Colorado’s Retail Marijuana businesses and the safety of the public.

R 406 – Retail Marijuana Store: Health and Safety Regulations:

A. Local Safety Inspections. A Retail Marijuana Store may be subject to inspection by the local fire department, building inspector, or code enforcement officer to confirm that no health or safety concerns are present. The inspection could result in additional specific standards to meet local jurisdiction restrictions related to Retail Marijuana. An annual fire safety inspection may result in the required installation of fire suppression devices, or other means necessary for adequate fire safety.

B. Sanitary Conditions. A Retail Marijuana Store shall take all reasonable measures and precautions to ensure the following:

1. That any person who, by medical examination or supervisory observation, is shown to have, or appears to have, an illness, open lesion, including boils, sores, or infected wounds, or any other abnormal source of microbial contamination for whom there is a reasonable possibility of contact with Retail Marijuana and Retail Marijuana Product, shall be excluded from any operations which may be expected to result in such contamination until the condition is corrected;

2. That hand-washing facilities shall be adequate and convenient and be furnished with running water at a suitable temperature. Hand-washing facilities shall be located in the Licensed Premises and where good sanitary practices require employees to wash and/or sanitize their hands, and provide effective hand-cleaning and sanitizing preparations and sanitary towel service or suitable drying devices;

3. That all persons working in direct contact with Retail Marijuana or Retail Marijuana Product shall conform to hygienic practices while on duty, including but not limited to:

   a. Maintaining adequate personal cleanliness;

   b. Washing hands thoroughly in an adequate hand-washing area(s) before starting work and at any other time when the hands may have become soiled or contaminated; and
c. Refraining from having direct contact with Retail Marijuana or Retail Marijuana Product if the person has or may have an illness, open lesion, including boils, sores, or infected wounds, or any other abnormal source of microbial contamination, until such condition is corrected.

4. That litter and waste are properly removed and the operating systems for waste disposal are maintained in an adequate manner so that they do not constitute a source of contamination in areas where Retail Marijuana or Retail Marijuana Product are exposed;

5. That floors, walls, and ceilings are constructed in such a manner that they may be adequately cleaned and kept clean and kept in good repair;

6. That there is adequate lighting in all areas where Retail Marijuana or Retail Marijuana Product are stored or sold, and where equipment or utensils are cleaned;

7. That the Licensee provides adequate screening or other protection against the entry of pests. Rubbish shall be disposed of so as to minimize the development of odor and minimize the potential for the waste becoming an attractant, harborage, or breeding place for pests;

8. That any buildings, fixtures, and other facilities are maintained in a sanitary condition;

9. That toxic cleaning compounds, sanitizing agents, and other chemicals shall be identified, held, stored and disposed of in a manner that protects against contamination of Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product and in a manner that is in accordance with any applicable local, state or federal law, rule, regulation or ordinance;

10. That all operations in the receiving, inspecting, transporting, segregating, preparing, manufacturing, packaging, and storing of Retail Marijuana or Retail Marijuana Product shall be conducted in accordance with adequate sanitation principles;

11. That each employee is provided with adequate and readily accessible toilet facilities that are maintained in a sanitary condition and good repair; and

12. That Retail Marijuana or Retail Marijuana Product that can support the rapid growth of undesirable microorganisms shall be held in a manner that prevents the growth of these microorganisms.

C. Independent Health and Sanitary Audit

1. State Licensing Authority May Require a Health and Sanitary Audit

a. When the State Licensing Authority determines a health and sanitary audit by an independent consultant is necessary, it may require a Retail Marijuana Store to undergo such an audit. The scope of the audit may include, but need not be limited to, whether the Retail Marijuana Store is in compliance with the requirements set forth in this rule and other applicable health, sanitary or food handling laws, rules and regulations.

b. In such instances, the Division may attempt to mutually agree upon the selection of the independent consultant with a Retail Marijuana Store. However, the Division always retains the authority to select the independent consultant regardless of whether mutual agreement can be reached.
c. The Retail Marijuana Store will be responsible for all costs associated with the independent health and sanitary audit.

2. **When Independent Health and Sanitary Audit Is Necessary.** The State Licensing Authority has discretion to determine when an audit by an independent consultant is necessary. The following is a non-exhaustive list of examples that may justify an independent audit:

   a. The Division has reasonable grounds to believe that the Retail Marijuana Store is in violation of one or more of the requirements set forth in this rule or other applicable public health or sanitary laws, rules or regulations; or

   b. The Division has reasonable grounds to believe that the Retail Marijuana Store was the cause or source of contamination of Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product.

3. **Compliance Required.** A Retail Marijuana Store must pay for and timely cooperate with the State Licensing Authority’s requirement that it undergo an independent health and sanitary audit in accordance with this rule.

4. **Suspension of Operations**

   a. If the State Licensing Authority has objective and reasonable grounds to believe and finds upon reasonable ascertainment of the underlying facts that the public health, safety or welfare imperatively requires emergency action and incorporates such findings into its order, it may order summary suspension of the Retail Marijuana Store’s license. See Rule R 1302 – Disciplinary Process: Summary Suspensions.

   b. Prior to or following the issuance of such an order, the Retail Marijuana Store may attempt to come to a mutual agreement with the Division to suspend its operations until the completion of the independent audit and the implementation of any required remedial measures.

      i. If an agreement cannot be reached or the State Licensing Authority, in its sole discretion, determines that such an agreement is not in the best interests of the public health, safety or welfare, then the State Licensing Authority will promptly institute license suspension or revocation procedures. See Rule R 1302 – Disciplinary Process: Summary Suspensions.

      ii. If an agreement to suspend operations is reached, then the Retail Marijuana Store may continue to care for its inventory and conduct any necessary internal business operations but it may not sell any Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product to a consumer or to any other Retail Marijuana Establishment during the period of time specified in the agreement.

D. **A Retail Marijuana Store shall not accept or Transfer any Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Products that have failed required testing pursuant to Rule R 1501 Retail Marijuana Testing Program – Contaminant Testing.** unless otherwise permitted in these Rules.

E. **Violation Affecting Public Safety.** Failure to comply with this rule may constitute a license violation affecting public safety.
R 500 Series – Retail Marijuana Cultivation Facilities

Basis and Purpose – R 504

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(X), 12-43.4-202(3)(a)(XI), 12-43.4-202(3)(a)(XII), and 12-43.4-202(3)(b)(X), C.R.S. The purpose of this rule is to establish minimum health and safety regulation for Retail Marijuana Cultivation Facilities. The rule prohibits a Retail Marijuana Cultivation Facility from treating or otherwise adulterating Retail Marijuana with any chemical or other compound whatsoever to alter its color, appearance, weight or smell. This rule also authorizes the State Licensing Authority to require an independent consultant to conduct a health and sanitary audit of a Retail Marijuana Cultivation Facility. This rule explains when an independent health and sanitary audit may be deemed necessary and sets forth possible consequences of a Retail Marijuana Establishment’s refusal to cooperate or pay for the audit.

R 504 – Retail Marijuana Cultivation Facility: Health and Safety Regulations

A. Local Safety Inspections. A Retail Marijuana Cultivation Facility may be subject to inspection of its Licensed Premises by the local fire department, building inspector, or code enforcement officer to confirm that no health or safety concerns are present. The inspection could result in additional specific standards to meet local jurisdiction restrictions related to Retail Marijuana. An annual fire safety inspection may result in the required installation of fire suppression devices, or other means necessary for adequate fire safety.

B. General Sanitary Requirements. A Retail Marijuana Cultivation Facility shall take all reasonable measures and precautions to ensure the following:

1. That any person who, by medical examination or supervisory observation, is shown to have, or appears to have, an illness, open lesion, including boils, sores, or infected wounds, or any other abnormal source of microbial contamination for whom there is a reasonable possibility of contact with Retail Marijuana shall be excluded from any operations which may be expected to result in such contamination until the condition is corrected;

2. That all persons working in direct contact with Retail Marijuana shall conform to hygienic practices while on duty, including but not limited to:

   a. Maintaining adequate personal cleanliness;

   b. Washing hands thoroughly in an adequate hand-washing area(s) before starting work, prior to engaging in the production of a Retail Marijuana Concentrate, and at any other time when the hands may have become soiled or contaminated;

   c. Hand-washing facilities shall be adequate and convenient and be furnished with running water at a suitable temperature. Hand-washing facilities shall be located in the Licensed Premises and where good sanitary practices require employees to wash and/or sanitize their hands, and provide effective hand-cleaning and sanitizing preparations and sanitary towel service or suitable drying devices; and

   d. Refraining from having direct contact with Retail Marijuana if the person has or may have an illness, open lesion, including boils, sores, or infected wounds, or any other abnormal source of microbial contamination, until such condition is corrected.
3. That litter and waste are properly removed and the operating systems for waste disposal are maintained in an adequate manner so that they do not constitute a source of contamination in areas where Retail Marijuana is exposed;

4. That floors, walls, and ceilings are constructed in such a manner that they may be adequately cleaned and kept clean and kept in good repair;

5. That there is adequate lighting in all areas where Retail Marijuana are stored or sold, and where equipment or utensils are cleaned;

6. That the Licensee provides adequate screening or other protection against the entry of pests. Rubbish shall be disposed of so as to minimize the development of odor and minimize the potential for the waste becoming an attractant, harborage, or breeding place for pests;

7. That any buildings, fixtures, and other facilities are maintained in a sanitary condition;

8. That toxic cleaning compounds, sanitizing agents, solvents and other chemicals shall be identified, held, stored and disposed of in a manner that protects against contamination of Retail Marijuana or Retail Marijuana Concentrate, and in a manner that is in accordance with any applicable local, state, or federal law, rule, regulation or ordinance. All Pesticide must be stored and disposed of in accordance with the information provided on the product's label;

9. That all contact surfaces, including utensils and equipment used for the preparation of Retail Marijuana or Retail Marijuana Concentrate shall be cleaned and sanitized as frequently as necessary to protect against contamination. Equipment and utensils shall be so designed and of such material and workmanship as to be adequately cleanable, and shall be properly maintained. Only sanitizers and disinfectants registered with the Environmental Protection Agency shall be used in a Retail Marijuana Cultivation Facility and used in accordance with labeled instructions;

10. That the water supply shall be sufficient for the operations intended and shall be derived from a source that is a regulated water system. Private water supplies shall be derived from a water source that is capable of providing a safe, potable, and adequate supply of water to meet the Licensed Premises needs. Reclaimed water may also be used subject to approval of the Water Quality Control Division of the local water provider;

11. That plumbing shall be of adequate size and design and adequately installed and maintained to carry sufficient quantities of water to required locations throughout the plant and that shall properly convey sewage and liquid disposable waste from the Licensed Premises. There shall be no cross-connections between the potable water, reclaimed water and waste water lines;

12. That all operations in the receiving, inspecting, transporting, segregating, preparing, manufacturing, packaging, and storing of Retail Marijuana or Retail Marijuana Product shall be conducted in accordance with adequate sanitation principles;

13. That each Retail Marijuana Cultivation Facility shall provide its employees with adequate and readily accessible toilet facilities that are maintained in a sanitary condition and good repair; and
14. That Retail Marijuana that can support the rapid growth of undesirable microorganisms shall be held in a manner that prevents the growth of these microorganisms.

C. **Pesticide Application.** A Retail Marijuana Cultivation Facility may only use Pesticide in accordance with the “Pesticide Act,” section 35-9-101 et seq., C.R.S., “Pesticides Applicators’ Act,” section 35-10-101 et seq., C.R.S., and all other applicable federal, state, and local laws, statutes, rules and regulations. This includes, but shall not be limited to, the prohibition on detaching, altering, defacing or destroying, in whole or in part, any label on any Pesticide.

D. **Application of Other Agricultural Chemicals.** A Retail Marijuana Cultivation Facility may only use agricultural chemicals, other than Pesticide, in accordance with all applicable federal, state, and local laws, statutes, rules and regulations.

E. **Required Documentation**

1. **Standard Operating Procedures.** A Retail Marijuana Cultivation Facility must establish written standard operating procedures for the cultivation, harvest, drying, curing, packaging and storing of Retail Marijuana. The standard operating procedures must also at a minimum include when, and the manner in which, all Pesticide and other agricultural chemicals are to be applied during its cultivation process. A copy of all standard operating procedures must be maintained on the Licensed Premises of the Retail Marijuana Cultivation Facility.

2. **Material Change.** If a Retail Marijuana Cultivation Facility makes a Material Change to its standard operating procedures, it must document the change and revise its standard operating procedures accordingly. Records detailing the Material Change must be maintained on the Licensed Premises of the Retail Marijuana Cultivation Facility.

3. **Material Safety Data Sheet.** A Retail Marijuana Cultivation Facility must obtain a material safety data sheet for any Pesticide or other agricultural chemical used or stored on its Licensed Premises. A Retail Marijuana Cultivation Facility must maintain a current copy of the material safety data sheet for any Pesticide or other agricultural chemical on the Licensed Premises where the product is used or stored.

4. **Labels of Pesticide and Other Agricultural Chemicals.** A Retail Marijuana Cultivation Facility must have the original label or a copy thereof at its Licensed Premises for all Pesticide and other agricultural chemicals used during its cultivation process.

5. **Pesticide Application Documentation.** A Retail Marijuana Cultivation Facility that applies any Pesticide or other agricultural chemical to any portion of a Retail Marijuana plant, water or feed used during cultivation or generally within the Licensed Premises must document, and maintain a record on its Licensed Premises of, the following information:

   a. The name, signature and Occupational License number of the individual who applied the Pesticide or other agricultural chemical;

   b. Applicator certification number if the applicator is licensed through the Department of Agriculture in accordance with the “Pesticides Applicators’ Act,” section 35-10-101 et seq., C.R.S.;

   c. The date and time of the application;
d. The EPA registration number of the Pesticide or CAS number of any other agricultural chemical(s) applied;

e. Any of the active ingredients of the Pesticide or other agricultural chemical(s) applied;

f. Brand name and product name of the Pesticide or other agricultural chemical(s) applied;

g. The restricted entry interval from the product label of any Pesticide or other agricultural chemical(s) applied;

h. The RFID tag number of the Retail Marijuana plant(s) to which the Pesticide or other agricultural chemical(s) were applied, or, if the Pesticide or other agricultural chemical(s) were applied to all plants throughout the Licensed Premises, a statement to that effect; and

i. The total amount of each Pesticide or other agricultural chemical applied.

F. Prohibited Chemicals. The following chemicals shall not be used in Retail Marijuana cultivation. Possession of chemicals and/or containers from these chemicals upon the Licensed Premises shall be a violation of this rule. Prohibited chemicals are:

Any Pesticide not authorized for use on Cannabis by the Colorado Department of Agriculture.

Chemical Name
CAS Registry Number (or EDF Substance ID)

ALDRIN
309-00-2

ARSENIC OXIDE (3)
1327-53-3

ASBESTOS (FRIABLE)
1332-21-4

AZODRIN
6923-22-4

1,4-BENZOQUINONE, 2,3,5,6-TETRACHLORO-
118-75-2

BINAPACRYL
485-31-4
2,3,4,5-BIS (2-BUTENYLENE) TETRAHYDROFURFURAL
126-15-8
BROMOXYNIL BUTYRATE
EDF-186
CADMIUM COMPOUNDS
CAE750
CALCIUM ARSENATE [2ASH3O4.2CA]
7778-44-1
CAMPHECHLOR
8001-35-2
CAPTAFOL
2425-06-1
CARBOFURAN
1563-66-2
CARBON TETRACHLORIDE
56-23-5
CHLORDANE
57-74-9
CHLORDECONE (KEPONE)
143-50-0
CHLORDIMEFORM
6164-98-3
CHLOROBENZilate
510-15-6
CHLOROMETHOXYPROPYLEMERCURIC ACETATE [CPMA] EDF-183
COPPER ARSENATE
10103-61-4
2,4-D, ISOOCTYL ESTER
25168-26-7
DAMINOZIDE
1596-84-5
DDD
72-54-8
DDT
50-29-3
DI(PHENYLMERCUY)DODECENLYSUCCINATE [PMDS] EDF-
187
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)
96-12-8
1,2-DIBROMOETHANE
106-93-4
1,2-DICHLOROETHANE
107-06-2
DIELDRIN
60-57-1
4,6-DINITRO-O-CRESOL
534-52-1
DINITROBUTYL PHENOL
88-85-7
ENDRIN
72-20-8
EPN
2104-64-5
ETHYLENE OXIDE  
75-21-8

FLUOROACETAMIDE  
640-19-7

GAMMA-LINDANE  
58-89-9

HEPTACHLOR  
76-44-8

HEXACHLOROBENZENE  
118-74-1

1,2,3,4,5,6-HEXACHLOROCYCLOHEXANE (MIXTURE OF ISOMERS)  
608-73-1

1,3-HEXANEDIOL, 2-ETHYL  
94-96-2

LEAD ARSENATE  
7784-40-9

LEPTOPHOS  
21609-90-5

MERCURY  
7439-97-6

METHAMIDOPHOS  
10265-92-6

METHYL PARATHION  
298-00-0

MEVINPHOS  
7786-34-7

MIREX
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2.4.5-TP ACID (SILVEX)
93-72-1
TRIBUTYL Tin COMPOUNDS
EDF-184
2.4.5-TRICHLOROPHENOL
95-95-4
VINYL CHLORIDE
75-01-4

G. **DMSO.** The use of Dimethylsulfoxide ("DMSO") in the production of Retail Marijuana shall be prohibited and possession of DMSO upon the Licensed Premises is prohibited.

H. **Adulterants.** A Retail Marijuana Cultivation Facility may not treat or otherwise adulterate Retail Marijuana with any chemical or other compound whatsoever to alter its color, appearance, weight or smell.

I. **Independent Health and Sanitary Audit**

1. **State Licensing Authority May Require A Health and Sanitary Audit**

   a. When the State Licensing Authority determines a health and sanitary audit by an independent consultant is necessary, it may require a Retail Marijuana Cultivation Facility to undergo such an audit. The scope of the audit may include, but need not be limited to, whether the Retail Marijuana Cultivation Facility is in compliance with the requirements set forth in this rule and other applicable public health or sanitary laws and regulations.

   b. In such instances, the Division may attempt to mutually agree upon the selection of the independent consultant with a Retail Marijuana Cultivation Facility. However, the Division always retains the authority to select the independent consultant regardless of whether mutual agreement can be reached.

   c. The Retail Marijuana Cultivation Facility will be responsible for all costs associated with the independent health and sanitary audit.

2. **When Independent Health and Sanitary Audit Is Necessary.** The State Licensing Authority has discretion to determine when an audit by an independent consultant is necessary. The following is a non-exhaustive list of examples that may justify an independent audit:

   a. A Retail Marijuana Cultivation Facility does not provide requested records related to the use of Pesticide or other agricultural chemicals during the cultivation process;

Comment [Au1]: Does this chemical have a registration number?
b. The Division has reasonable grounds to believe that the Retail Marijuana Cultivation Facility is in violation of one or more of the requirements set forth in this rule or other applicable public health or sanitary laws, rules or regulations;

c. The Division has reasonable grounds to believe that the Retail Marijuana Cultivation Facility was the cause or source of contamination of Retail Marijuana or Retail Marijuana Concentrate; or

d. Multiple Harvest Batches or Production Batches produced by the Retail Marijuana Cultivation Facility failed contaminant testing.

3. **Compliance Required.** A Retail Marijuana Cultivation Facility must pay for and timely cooperate with the State Licensing Authority’s requirement that it undergo an independent health and sanitary audit in accordance with this rule.

4. **Suspension of Operations**

   a. If the State Licensing Authority has objective and reasonable grounds to believe and finds upon reasonable ascertainment of the underlying facts that the public health, safety or welfare imperatively requires emergency action and incorporates such findings into its order, it may order summary suspension of the Retail Marijuana Cultivation Facility’s license. See Rule R 1302 – Disciplinary Process: Summary Suspensions.

   b. Prior to or following the issuance of such an order, the Retail Marijuana Cultivation Facility may attempt to come to a mutual agreement with the Division to suspend its operations until the completion of the independent audit and the implementation of any required remedial measures.

      i. If an agreement cannot be reached or the State Licensing Authority, in its sole discretion, determines that such an agreement is not in the best interests of the public health, safety or welfare, then the State Licensing Authority will promptly institute license suspension or revocation procedures. See Rule R 1302 – Disciplinary Process: Summary Suspensions.

      ii. If an agreement to suspend operations is reached, then the Retail Marijuana Cultivation Facility may continue to care for its inventory and conduct any necessary internal business operations but it may not Transfer sell, transfer or wholesale Retail Marijuana or Retail Marijuana Concentrate to any other Retail Marijuana Establishment during the period of time specified in the agreement.

   J. **A Retail Marijuana Cultivation Facility shall not accept or Transfer any Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Products that have failed required testing pursuant to Rule R 1501 – Retail Marijuana Testing Program – Contaminant Testing, unless otherwise permitted in these Rules.**

   K. **Violation Affecting Public Safety.** Failure to comply with this rule may constitute a license violation affecting public safety.
R 600 Series – Retail Marijuana Products Manufacturing Facilities

Basis and Purpose – R 604

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(IV)(A), 12-43.4-202(3)(a)(VI), 12-43.4-202(3)(a)(VII), 12-43.4-202(3)(a)(VIII), 12-43.4-202(3)(a)(XI), 12-43.4-202(3)(a)(XII), 12-43.4-202(3)(b)(IX), 12-43.4-202(3)(c)(V), 12-43.4-202(3)(c)(VII), 12-43.4-202(3)(c)(IX)(A)-(B), and 12-43.4-202(3)(c.5)(l), and section 12-43.4-404, C.R.S. Authority also exists in the Colorado Constitution at Article XVIII, Subsection 16(5)(a)(VII). The purpose of this rule is to establish minimum health and safety regulation for Retail Marijuana Products Manufacturing Facilities. It requires all Owners and Occupational Licensees to demonstrate an understanding of basic food handling safety practices or attend a food handler training course prior to manufacturing any Edible Retail Marijuana Product. It sets forth general standards and basic sanitary requirements for Retail Marijuana Products Manufacturing Facilities. It covers the physical premises where the products are made as well as the individuals handling the products. The State Licensing Authority intends for this rule to reduce any product contamination, which will benefit both the Licensees and consumers. The State Licensing Authority modeled this rule after those adopted by the Colorado Department of Public Health and Environment. This rule also authorizes the State Licensing Authority to require an independent consultant to conduct a health and sanitary audit of a Retail Marijuana Products Manufacturing Facility. This rule explains when a health and sanitary audit may be deemed necessary and sets forth possible consequences of a Retail Marijuana Establishment’s refusal to cooperate or pay for the audit. This rule also establishes requirements for each Edible Retail Marijuana Product manufactured by a Retail Marijuana Products Manufacturing Facility. Product safety requirements were adopted to aid in making Edible Retail Marijuana Products more readily identifiable to the general public outside of their packaging as containing marijuana. Overall, the State Licensing Authority intends this rule to help maintain the integrity of Colorado’s Retail Marijuana businesses and the safety of the public.

R 604 – Retail Marijuana Products Manufacturing Facility: Health and Safety Regulations

A. Training

1. Prior to engaging in the manufacture of any Edible Retail Marijuana Product each Owner or Occupational Licensee must:

   a. Have a currently valid ServSafe Food Handler Certificate obtained through the successful completion of an online assessment or print exam; or

   b. Take a food safety course that includes basic food handling training and is comparable to, or is a course given by, the Colorado State University extension service or a state, county, or district public health agency, and must maintain a status of good standing in accordance with the course requirements, including attending any additional classes if necessary. Any course taken pursuant to this rule must last at least two hours and cover the following subjects:

      i. Causes of foodborne illness, highly susceptible populations and worker illness;

      ii. Personal hygiene and food handling practices;

      iii. Approved sources of food;

      iv. Potentially hazardous foods and food temperatures;
v. Sanitization and chemical use; and
vi. Emergency procedures (fire, flood, sewer backup).

2. A Retail Marijuana Products Manufacturing Facility must obtain documentation evidencing that each Owner and each Occupational Licensee has successfully completed the examination or course required by this rule and is in good standing. A copy of the documentation must be kept on file at any Licensed Premises where that Owner or Occupational Licensee is engaged in the manufacturing of an Edible Retail Marijuana Product.

B. General Standards

1. A Retail Marijuana Products Manufacturing Facility may be subject to inspection by the local fire department, building inspector, or code enforcement officer to confirm that no health or safety concerns are present. The inspection could result in additional specific standards to meet local jurisdiction restrictions related to Retail Marijuana. An annual fire safety inspection may result in the required installation of fire suppression devices, or other means necessary for adequate fire safety.

2. A Retail Marijuana Products Manufacturing Facility that manufacturers edible Retail Marijuana Product shall comply with all kitchen-related health and safety standards of the relevant local jurisdiction and, to the extent applicable, with all Colorado Department of Public Health and Environment health and safety regulations applicable to retail food establishments, as set forth in 6 CCR 1010-2.

C. Product Safety

Paragraph C is repealed effective October 1, 2016. Licensees shall refer to paragraph (C.5) of this rule for product safety requirements beginning October 1, 2016.

1. A Retail Marijuana Products Manufacturing Facility that manufactures Edible Retail Marijuana Product shall comply fully with paragraph C of this rule no later than February 1, 2015.

2. A Retail Marijuana Products Manufacturing Facility that manufactures Edible Retail Marijuana Product shall create and maintain standard production procedures and detailed manufacturing processes for each Edible Retail Marijuana Product it manufactures. These procedures and processes must be documented and made available on the licensed premises for inspection by the Marijuana Enforcement Division, the Colorado Department of Public Health & Environment, and local licensing authorities.

3. The size of a Standardized Serving Of Marijuana shall be no more than 10mg of active THC. A Retail Marijuana Products Manufacturing Facility that manufactures Edible Retail Marijuana Product shall determine the total number of Standardized Servings Of Marijuana for each product that it manufactures. No individual Edible Retail Marijuana Product unit for sale shall contain more than 100 milligrams of active THC.

4. The following information must be documented in the standard production procedures for each Edible Retail Marijuana Product: the amount in milligrams of Standardized Serving Of Marijuana, the total number of Standardized Servings Of Marijuana, and the total amount of active THC contained within the product.
5. Multiple-Serving Edible Retail Marijuana Product. A Retail Marijuana Products Manufacturing Facility must ensure that each single Standardized Serving Of Marijuana of a Multiple-Serving Edible Retail Marijuana Product is physically demarked in a way that enables a reasonable person to intuitively determine how much of the product constitutes a single serving of active THC. Each demarked Standardized Serving Of Marijuana must be easily separable in order to allow an average person 21 years of age and over to physically separate, with minimal effort, individual servings of the product.

6. If an Edible Retail Marijuana Product is of the type that is impracticable to clearly demark each Standardized Serving Of Marijuana or to make each Standardized Serving Of Marijuana easily separable, then the product must contain no more than 10 mg of active THC per unit of sale, and the Retail Marijuana Products Manufacturing Facility must ensure that the product complies with subparagraph (B)(2)(a) of rule R 1004.5.

C.5. Product Safety.

Paragraph (C.5) is effective beginning October 1, 2016.

1. A Retail Marijuana Products Manufacturing Facility that manufactures Edible Retail Marijuana Product shall create and maintain standard production procedures and detailed manufacturing processes for each Edible Retail Marijuana Product it manufactures. These procedures and processes must be documented and made available on the Licensed Premises for inspection by the Division, the Colorado Department of Public Health & Environment, and local licensing authorities.

2. The size of a Standardized Serving Of Marijuana shall be no more than 10mg of active THC. A Retail Marijuana Products Manufacturing Facility that manufactures Edible Retail Marijuana Product shall determine the total number of Standardized Servings Of Marijuana for each product that it manufactures. No individual Edible Retail Marijuana Product unit for sale shall contain more than 100 milligrams of active THC.

3. The following information must be documented in the standard production procedures for each Edible Retail Marijuana Product: the amount in milligrams of Standardized Serving Of Marijuana, the total number of Standardized Servings Of Marijuana, and the total amount of active THC contained within the product.

4. Each single Standardized Serving Of Marijuana shall be marked, stamped, or otherwise imprinted with the Universal Symbol directly on at least one side of the Edible Retail Marijuana Product in a manner to cause the Universal Symbol to be distinguishable and easily recognizable. The Universal Symbol marking shall:

   a. Be centered either horizontally or vertically on each Standardized Serving Of Marijuana; and

   b. If centered horizontally on a serving, the height and width of the Universal Symbol shall be of a size that is at least 25% of the serving’s width, but not less than ¼ inch by ¼ inch; or

   c. If centered vertically on a serving, the height and width of the Universal Symbol shall be of a size that is at least 25% of the serving’s height, but not less than ¼ inch by ¼ inch.
5. Notwithstanding the requirement of subparagraph (C.5)(4), an Edible Retail Marijuana Product shall contain no more than 10 mg of active THC per Container and the Retail Marijuana Products Manufacturing Facility must ensure that the product complies with subparagraph (A)(2) of rule R 1004 or subparagraphs (A)-(C) of rule R 1008-1 when:

   a. The Edible Retail Marijuana Product is of the type that is impracticable to mark, stamp, or otherwise imprint with the Universal Symbol directly on the product in a manner to cause the Universal Symbol to be distinguishable and easily recognizable; or

   b. The Edible Retail Marijuana Product is of the type that is impracticable to clearly demark each Standardized Serving Of Marijuana or to make each Standardized Serving Of Marijuana easily separable.

6. The following categories of Edible Retail Marijuana Product are considered to be per se practicable to mark with the Universal Symbol:

   a. Chocolate
   b. Soft confections
   c. Hard confections or lozenges
   d. Consolidated baked goods (e.g. cookie, brownie, cupcake, granola bar)
   e. Pressed pills and capsules

7. The following categories of Edible Retail Marijuana Product are considered to be per se impracticable to mark with the Universal Symbol:

   a. Repealed.
   b. Loose bulk goods (e.g. granola, cereals, popcorn)
   c. Powders

8. Repealed.

8.1. Liquid Edible Retail Marijuana Product.

   a. Pursuant to 12-43.4-404(4)(b), C.R.S., Liquid Edible Retail Marijuana Products are impracticable to mark with the Universal Symbol and are exempt from the provision in subparagraph (C.5)(5) of this rule R 604 that requires Edible Retail Marijuana Products that are impracticable to mark with the Universal Symbol to contain 10mg or less active THC per Container.

   b. This exemption permits the manufacture and sale of Multi-Serving Liquid Edible Retail Marijuana Products so long as the product is:

      i. Packaged in a structure that uses a single mechanism to achieve both Child-Resistant properties and accurate pouring measurement of each liquid serving in increments equal to or less than 10mg of active THC per serving, with no more than 100mg of active THC total per Container; and
ii. The measurement component is within the Child-Resistant cap or closure of the bottle and is not a separate component.

9. **Multiple-Serving Edible Retail Marijuana Product.**
   a. A Retail Marijuana Products Manufacturing Facility must ensure that each single Standardized Serving Of Marijuana of a Multiple-Serving Edible Retail Marijuana Product is physically demarked in a way that enables a reasonable person to intuitively determine how much of the product constitutes a single serving of active THC.
   b. Each demarked Standardized Serving Of Marijuana must be easily separable in order to allow an average person 21 years of age and over to physically separate, with minimal effort, individual servings of the product.
   c. Each single Standardized Serving Of Marijuana contained in a Multiple-Serving Edible Retail Marijuana Product shall be marked, stamped, or otherwise imprinted with the Universal Symbol directly on the product in a manner to cause the Universal Symbol to be distinguishable and easily recognizable. The Universal Symbol marking shall comply with the requirements of subparagraph (C.5)(4) of this rule R 604.
   d. A Multiple-Serving Edible Retail Marijuana Product that is a Liquid Edible Retail Marijuana Product shall comply with the requirements in subsubparagraph (C.5)(8.1)(b) of this rule R 604 and is exempt from subsubparagraphs a-c of this subparagraph (C.5)(9).

10. **Remanufactured Products Prohibited.** A Retail Marijuana Product Manufacturing Facility shall not utilize a commercially manufactured food product as its Edible Retail Marijuana Product. The following exceptions to this prohibition apply:
   a. A food product that was commercially manufactured specifically for use by the Retail Marijuana Product Manufacturing Facility Licensee to infuse with marijuana shall be allowed. The Licensee shall have a written agreement with the commercial food product manufacturer that declares the food product’s exclusive use by the Retail Marijuana Product Manufacturing Facility.
   b. Commercially manufactured food products may be used as ingredients in a Retail Marijuana Product Manufacturing Facility’s Edible Retail Marijuana product so long as: (1) they are used in a way that renders them unrecognizable as the commercial food product in the final Edible Retail Marijuana Product, and (2) the Retail Marijuana Product Manufacturing Facility does not state or advertise to the consumer that the final Edible Retail Marijuana Product contains the commercially manufactured food product.

11. **Trademarked Food Products.** Nothing in this rule alters or eliminates a Retail Marijuana Product Manufacturing Facility’s responsibility to comply with the trademarked food product provisions required by the Retail Code per 12-43.4-404(1)(e)(I-III), C.R.S.

12. **Edibles Prohibited that are Shaped like a Human, Animal, or Fruit.** This subparagraph (C.5)(12) is effective beginning October 1, 2017.
a. The production and sale of Edible Retail Marijuana Products in the following shapes is prohibited:
   
   i. The distinct shape of a human, animal, or fruit; or
   
   ii. A shape that bears the likeness or contains characteristics of a realistic or fictional human, animal, or fruit, including artistic, caricature, or cartoon renderings.

b. The prohibition on human, animal, and fruit shapes does not apply to the logo of a licensed Retail Marijuana Establishment. Nothing in this subparagraph (C.5)(12)(b) alters or eliminates a Licensee’s obligation to comply with the requirements of Rule R 1001 – Labeling and Packaging Requirements: General Applicability or Rule R 1000-1 Series – Labeling, Packaging, and Product Safety.

c. Edible Retail Marijuana Products that are geometric shapes and simply fruit flavored are not considered fruit and are permissible; and

d. Edible Retail Marijuana Products that are manufactured in the shape of a marijuana leaf are permissible.

D. General Sanitary Requirements. The Licensee shall take all reasonable measures and precautions to ensure the following:

1. That any person who, by medical examination or supervisory observation, is shown to have, or appears to have, an illness, open lesion, including boils, sores, or infected wounds, or any other abnormal source of microbial contamination for whom there is a reasonable possibility of contact with preparation surfaces for Retail Marijuana or Retail Marijuana Product shall be excluded from any operations which may be expected to result in such contamination until the condition is corrected;

2. That hand-washing facilities shall be adequate and convenient and be furnished with running water at a suitable temperature. Hand-washing facilities shall be located in the Licensed Premises and/or in Retail Marijuana Product preparation areas and where good sanitary practices require employees to wash and/or sanitize their hands, and provide effective hand-cleaning and sanitizing preparations and sanitary towel service or suitable drying devices;

3. That all persons working in direct contact with preparation of Retail Marijuana or Retail Marijuana Product shall conform to hygienic practices while on duty, including but not limited to:
   
   a. Maintaining adequate personal cleanliness;
   
   b. Washing hands thoroughly in an adequate hand-washing area(s) before starting work, prior to engaging in the production of a Retail Marijuana Concentrate or manufacture of a Retail Marijuana Product and at any other time when the hands may have become soiled or contaminated; and
   
   c. Refraining from having direct contact with preparation of Retail Marijuana or Retail Marijuana Product if the person has or may have an illness, open lesion, including boils, sores, or infected wounds, or any other abnormal source of microbial contamination, until such condition is corrected.
4. That there is sufficient space for placement of equipment and storage of materials as is necessary for the maintenance of sanitary operations for production of Retail Marijuana or Retail Marijuana Product;

5. That litter and waste are properly removed and the operating systems for waste disposal are maintained in an adequate manner so that they do not constitute a source of contamination in areas where Retail Marijuana or Retail Marijuana Product are exposed;

6. That floors, walls, and ceilings are constructed in such a manner that they may be adequately cleaned and kept clean and kept in good repair;

7. That there is adequate safety-type lighting in all areas where Retail Marijuana or Retail Marijuana Product are processed or stored and where equipment or utensils are cleaned;

8. That the Licensed Premises provides adequate screening or other protection against the entry of pests. Rubbish shall be disposed of so as to minimize the development of odor and minimize the potential for the waste becoming an attractant, harborage, or breeding place for pests;

9. That any buildings, fixtures, and other facilities are maintained in a sanitary condition;

10. That all contact surfaces, including utensils and equipment used for the preparation of Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product, shall be cleaned and sanitized as frequently as necessary to protect against contamination. Equipment and utensils shall be so designed and of such material and workmanship as to be adequately cleanable, and shall be properly maintained. Only sanitizers and disinfectants registered with the Environmental Protection Agency shall be used in a Retail Marijuana Products Manufacturing Facility and used in accordance with labeled instructions;

11. That toxic cleaning compounds, sanitizing agents, solvents used in the production of Retail Marijuana concentrate and other chemicals shall be identified, held, stored and disposed of in a manner that protects against contamination of Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product, and in a manner that is in accordance with any applicable local, state, or federal law, rule, regulation or ordinance;

12. That the water supply shall be sufficient for the operations intended and shall be derived from a source that is a regulated water system. Private water supplies shall be derived from a water source that is capable of providing a safe, potable, and adequate supply of water to meet the Licensed Premises needs;

13. That plumbing shall be of adequate size and design and adequately installed and maintained to carry sufficient quantities of water to required locations throughout the plant and that shall properly convey sewage and liquid disposable waste from the Licensed Premises. There shall be no cross-connections between the potable and waste water lines;

14. That each Retail Marijuana Products Manufacturing Facility shall provide its employees with adequate and readily accessible toilet facilities that are maintained in a sanitary condition and good repair;
15. That all operations in the receiving, inspecting, transporting, segregating, preparing, manufacturing, packaging, and storing of Retail Marijuana or Retail Marijuana Product shall be conducted in accordance with adequate sanitation principles;

16. That Retail Marijuana or Retail Marijuana Product that can support the rapid growth of undesirable microorganisms shall be held in a manner that prevents the growth of these microorganisms; and

17. That storage and transport of finished Retail Marijuana Product shall be under conditions that will protect products against physical, chemical, and microbial contamination as well as against deterioration of any container.

E. Standard Operating Procedures

1. A Retail Marijuana Products Manufacturing Facility must have written standard operating procedures for each category of Retail Marijuana Concentrate and type of Retail Marijuana Product that it produces.
   a. All standard operating procedures for the production of a Retail Marijuana Concentrate must follow the requirements in Rule R 605.
   b. A copy of all standard operating procedures must be maintained on the Licensed Premises of the Retail Marijuana Products Manufacturing Facility.

2. If a Retail Marijuana Products Manufacturing Facility makes a Material Change to its standard Retail Marijuana Concentrate or Retail Marijuana Product production process, it must document the change and revise its standard operating procedures accordingly. Records detailing the Material Change must be maintained on the relevant Licensed Premises.

F. Additives. A Retail Marijuana Products Manufacturing Facility shall not include any Additive that is toxic within a Retail Marijuana Product; nor include any Additive for the purposes of making the product more addictive, appealing to children or misleading to consumers.

G. DMSO. The use of Dimethylsulfoxide ("DMSO") in the production of Retail Marijuana Concentrate or Retail Marijuana Product shall be prohibited and possession of DMSO upon the Licensed Premises is prohibited.

H. Independent Health and Sanitary Audit

1. State Licensing Authority May Require An Independent Health and Sanitary Audit
   a. When the State Licensing Authority determines a health and sanitary audit by an independent consultant is necessary, it may require a Retail Marijuana Products Manufacturing Facility to undergo such an audit. The scope of the audit may include, but need not be limited to, whether the Retail Marijuana Products Manufacturing Facility is in compliance with the requirements set forth in this rule or other applicable food handling laws, rules or regulations or compliance with the concentrate production rules in Rule R 605 or other applicable laws, rules and regulations.
   b. In such instances, the Division may attempt to mutually agree upon the selection of the independent consultant with a Retail Marijuana Products Manufacturing
Facility. However, the Division always retains the authority to select the independent consultant regardless of whether mutual agreement can be reached.

c. The Retail Marijuana Products Manufacturing Facility will be responsible for all costs associated with the independent health and sanitary audit.

2. When Independent Health and Sanitary Audit Is Necessary. The State Licensing Authority has discretion to determine when an audit by an independent consultant is necessary. The following is a non-exhaustive list of examples that may justify an independent audit:

a. A Retail Marijuana Products Manufacturing Facility does not provide requested records related to the food handling training required for Owners or Occupational Licensees engaged in the production of Edible Retail Marijuana Product to the Division;

b. A Retail Marijuana Products Manufacturing Facility does not provide requested records related to the production of Retail Marijuana Concentrate, including but not limited to, certification of its Licensed Premises, equipment or standard operating procedures, training of Owners or Occupational Licensees, or Production Batch specific records;

c. The Division has reasonable grounds to believe that the Retail Marijuana Products Manufacturing Facility is in violation of one or more of the requirements set forth in this rule or Rule R 605;

d. The Division has reasonable grounds to believe that the Retail Marijuana Products Manufacturing Facility was the cause or source of contamination of Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product; or

e. Multiple Production Batches of Retail Marijuana Concentrate or Retail Marijuana Product produced by the Retail Marijuana Products Manufacturing Facility failed contaminant testing.

3. Compliance Required. A Retail Marijuana Products Manufacturing Facility must pay for and timely cooperate with the State Licensing Authority’s requirement that it undergo an independent health and sanitary audit in accordance with this rule.

4. Suspension of Operations

a. If the State Licensing Authority has objective and reasonable grounds to believe and finds upon reasonable ascertainment of the underlying facts that the public health, safety or welfare imperatively requires emergency action and incorporates such findings into its order, it may order summary suspension of the Retail Marijuana Products Manufacturing Facility’s license. See Rule R 1302 – Disciplinary Process: Summary Suspensions.

b. Prior to or following the issuance of such an order, the Retail Marijuana Products Manufacturing Facility may attempt to come to a mutual agreement with the Division to suspend its operations until the completion of the independent audit and the implementation of any required remedial measures.
i. If an agreement cannot be reached or the State Licensing Authority, in its sole discretion, determines that such an agreement is not in the best interests of the public health, safety or welfare, then the State Licensing Authority will promptly institute license suspension or revocation procedures. See Rule R 1302 – Disciplinary Process: Summary Suspensions.

ii. If an agreement to suspend operations is reached, then the Retail Marijuana Products Manufacturing Facility may continue to care for its inventory and conduct any necessary internal business operations but it may not sell, transfer or wholesale Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product to another Retail Marijuana Establishment during the period of time specified in the agreement. Depending on the condition of the Retail Marijuana Products Manufacturing Facility and required remedial measures, the Division may permit a Retail Marijuana Products Manufacturing Facility to produce Retail Marijuana Concentrate or manufacture Retail Marijuana Product while operations have been suspended.

IH. A Retail Marijuana Products Manufacturer Facility shall not Transfer any Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product that has failed required testing pursuant to Rule R 1501, Retail Marijuana Testing Program – Contaminant Testing, unless otherwise permitted in these Rules.

J. Violation Affecting Public Safety. Failure to comply with this rule may constitute a license violation affecting public safety.
R 700 Series – Retail Marijuana Testing Facilities

Basis and Purpose – R 701

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(IV), 12-43.4-202(3)(a)(X), 12-43.4-202(3)(a)(XVII), 12-43.4-202(3)(b)(IX), 12-43.4-202(3)(c)(IV), 12-43.4-309(7)(a), 12-43.4-402(4), 12-43.4-403(5), 12-43.4-404(6), 12-43.4-405, 35-61-104, and 35-61-105.5, C.R.S. The purpose of this rule is to establish that it is unlawful for a Retail Marijuana Testing Facility Licensee to exercise any privileges other than those granted by the State Licensing Authority and to clarify the license privileges.

R 701 – Retail Marijuana Testing Facilities: License Privileges

A. Privileges Granted. A Retail Marijuana Testing Facility shall only exercise those privileges granted to it by the State Licensing Authority.

B. Licensed Premises. A separate License is required for each specific Retail Marijuana Testing Facility and only those privileges granted by the Retail Code and any rules promulgated pursuant to it may be exercised on the Licensed Premises.

C. Testing of Retail Marijuana and Retail Marijuana Product Authorized. A Retail Marijuana Testing Facility may accept samples of Retail Marijuana or Retail Marijuana Product from Retail Marijuana Establishments for testing and research purposes only. The Division may require a Retail Marijuana Establishment to submit a sample of Retail Marijuana or Retail Marijuana Product to a Retail Marijuana Testing Facility upon demand.

D. Product Development Authorized. A Retail Marijuana Testing Facility may develop Retail Marijuana Product, but is not authorized to engage in the manufacturing privileges described in section 12-43.4-404, C.R.S. and Rule R 601 – Retail Marijuana Manufacturing Facilities: License Privileges.

E. Medical Marijuana Occupational License for Testing and Research. This paragraph is repealed effective July 1, 2016. Licensees shall refer to the M 700 Series – Medical Marijuana Testing Facilities, located in 1 CCR 212-1, for the testing and research of Medical Marijuana and Medical Marijuana-Infused Product beginning July 1, 2016. A Retail Marijuana Testing Facility that has applied for and obtained a Medical Marijuana Occupational License for Testing and Research may accept samples of Medical Marijuana or Medical Marijuana-Infused Product from Medical Marijuana Businesses for testing and research purposes only.

F. Sending samples to Other Licensed and Certified Retail Marijuana Testing Facility. A Retail Marijuana Testing Facility may send samples to another Retail Marijuana Testing Facility for testing. All laboratory reports provided to a Retail Marijuana Establishment must identify the Retail Marijuana Testing Facility that actually conducted the test.

G. Testing of Registered and Tracked Industrial Hemp Authorized.

1. A Retail Marijuana Testing Facility may accept and test samples of Industrial Hemp as regulated by Article 61 of Title 35, C.R.S. The samples must be submitted by a registered cultivator and tracked through the radio frequency identification-based inventory tracking system approved by the Commissioner of the Colorado Department of Agriculture, pursuant to 35-61-105.5, C.R.S.
2. Only Retail Marijuana Testing Facilities that are certified to test in the category of THC and other Cannabinoid potency shall be permitted to test Sample Samples of Industrial Hemp as regulated by Article 61 of Title 35, C.R.S.

3. Nothing in these rules shall be construed to require a Retail Marijuana Testing Facility to accept and/or test Sample Samples of Industrial Hemp.

H. Authorized Marijuana Transport. A Retail Marijuana Testing Facility is authorized to utilize a licensed Retail Marijuana Transporter to transport Sample Samples of Retail Marijuana and Retail Marijuana Product for testing, in accordance with the Retail Marijuana Code and Retail Marijuana Rules, between the originating Retail Marijuana Establishment requesting testing services and the destination Retail Marijuana Testing Facility performing testing services. Nothing in this rule requires a Retail Marijuana Testing Facility, Retail Marijuana Store, Retail Marijuana Cultivation Facility, or Retail Marijuana Products Manufacturing Facility to utilize a Retail Marijuana Transporter to transport Sample Samples of Retail Marijuana or Retail Marijuana Product for testing.

Basis and Purpose – R 702

The statutory authority for this rule is found at subsections 12-43.3-901(2), 12-43.4-105, 12-43.4-202(1), 12-43.4-202(2)(b), 12-43.4-202(3)(a)(IV), 12-43.4-202(3)(a)(X), 12-43.4-202(3)(a)(XII), 12-43.4-202(3)(a)(XVII), 12-43.4-202(3)(b)(IX), 12-43.4-405, 12-43.4-901, 35-61-104, and 35-61-105.5, C.R.S. The purpose of this rule is to clarify those acts that are limited in some fashion, or prohibited, by a Retail Marijuana Testing Facility.

R 702 – Retail Marijuana Testing Facilities: General Limitations or Prohibited Acts

A. Prohibited Financial Interest. A Person who is an Owner of a Retail Marijuana Cultivation Facility, Retail Marijuana Products Manufacturing Facility, Retail Marijuana Store, Medical Marijuana Center, Optional Premises Cultivation, or a Medical Marijuana Infused-Products Manufacturing Facility, or is related by blood or marriage to such Person, shall not be an Owner of a Retail Marijuana Testing Facility.

A.2. Conflicts of Interest. Employees or agents of a Retail Marijuana Testing Facility who participate in any aspect of the analysis and results of a Sample Sample are prohibited from inappropriately influencing the testing process, inappropriately manipulating data, or benefiting from any pre-existing financial, employment, personal or business relationships with the Retail Marijuana Establishment that provided the Sample.

B. Sale of Marijuana Prohibited. A Retail Marijuana Testing Facility is prohibited from selling, distributing, or transferring Retail Marijuana, Retail Marijuana Product, Medical Marijuana, or Medical Marijuana-Infused Product to another Retail Marijuana Establishment, a Medical Marijuana Business, or a consumer, except that a Retail Marijuana Testing Facility may transfer a Sample Sample to another Retail Marijuana Testing Facility.

C. Destruction of Received Retail Marijuana Samples. A Retail Marijuana Testing Facility shall properly dispose of all Sample Samples it receives, that are not transferred to another Retail Marijuana Testing Facility, after all necessary tests have been conducted and any required period of storage. See Rule R 307 – Waste Disposal.

D. Consumption Prohibited. A Retail Marijuana Testing Facility shall not permit the consumption of marijuana or marijuana products on its Licensed Premises.
E. Sample Rejection. A Retail Marijuana Testing Facility shall reject any Sample where the condition of the Sample at receipt indicates that that the Sample may have been tampered with.

F. Retail Marijuana Establishment Requirements Applicable. A Retail Marijuana Testing Facility shall be considered Licensed Premises. A Retail Marijuana Testing Facility shall be subject to all requirements applicable to Retail Marijuana Establishments.

G. Retail Marijuana Testing Facility – Inventory Tracking System Required. A Retail Marijuana Testing Facility must use the Inventory Tracking System to ensure its Sample are identified and tracked from the point they are transferred from a Retail Marijuana Establishment or Medical Marijuana Business through the point of destruction or disposal. See also Rule R 309 – Retail Marijuana Establishment: Inventory Tracking System. The Retail Marijuana Testing Facility must have the ability to reconcile its Sample records with the Inventory Tracking System and the associated transaction history. See also Rule R 901 – Business Records Required.

H. Testing of Unregistered or Untracked Industrial Hemp Prohibited. A Retail Marijuana Testing Facility is authorized to test Sample of Industrial Hemp only if that are permitted: (1) the entity providing the Sample of Industrial Hemp is regulated by Article 61 of Title 35, C.R.S., (2) the Sample of Industrial Hemp are submitted by an unregistered cultivator, and (3) the Sample of Industrial Hemp are not tracked through the radio frequency identification-based inventory tracking system approved by the Commissioner of the Colorado Department of Agriculture, pursuant to section 35-61-105.5, C.R.S.

I. Transporter Restrictions. A Retail Marijuana Testing Facility shall not sell or give away Retail Marijuana or Retail Marijuana Product to a Retail Marijuana Transporter, and shall not buy, or receive complimentary Retail Marijuana or Retail Marijuana Product from a Retail Marijuana Transporter.

Basis and Purpose – R 703

The statutory authority for this rule is found at subsection 12-43.4-202(2)(b), 12-43.4-202(3)(a)(III), 12-43.4-202(3)(a)(IV), 12-43.4-202(3)(a)(V), 12-43.4-202(3)(a)(X), 12-43.4-202(3)(a)(XII), 12-43.4-202(3)(b)(III), 12-43.4-202(3)(b)(IX), and section 12-43.4-405, C.R.S. The purpose of this rule is to establish a framework for certification for Retail Marijuana Testing Facilities.

R 703 – Retail Marijuana Testing Facilities: Certification Requirements

A. Certification Types. If certification in a testing category is required by the Division, then the Retail Marijuana Testing Facility must be certified in the category in order to perform that type of testing.

1. Residual solvents;
2. Repealed.
3. Repealed.
4. Repealed.
5. Microbials;
6. Repealed
17. Microbials; THC and other Cannabinoid potency.
28. Mycotoxins; Chemical Contaminants; and

29. Residual Solvents; Biological Contaminants.

4. Pesticides; and

5. THC and other Cannabinoid potency.

B. Certification Procedures. The Retail Marijuana Testing Facility certification program is contingent upon successful on-site inspection, successful participation in proficiency testing, and ongoing compliance with the applicable requirements in this rule.

1. Certification Inspection. A Retail Marijuana Testing Facility must be inspected prior to initial certification and annually thereafter by an inspector approved by the Division.

2. Standards for Certification. A Retail Marijuana Testing Facility must meet standards of performance, as established by these rules, in order to obtain and maintain certification. Standards of performance include but are not limited to: personnel qualifications, standard operating procedures, analytical processes, proficiency testing, quality control, quality assurance, security, chain of custody, specimen retention, space, records, and results reporting.

3. Personnel Qualifications

a. Laboratory Director. A Retail Marijuana Testing Facility must employ, at a minimum, a laboratory director with sufficient education and experience in a regulated laboratory environment in order to obtain and maintain certification. See Rule R 704 – Retail Marijuana Testing Facilities: Personnel.

b. Employee Competency. A Retail Marijuana Testing Facility must have a written and documented system to evaluate and document the competency in performing authorized tests for employees. Prior to independently analyzing samples, testing personnel must demonstrate acceptable performance on precision, accuracy, specificity, reportable ranges, blanks, and unknown challenge samples (proficiency sample samples or internally generated quality controls).

4. Standard Operating Procedure Manual. A Retail Marijuana Testing Facility must have a written procedure manual meeting the minimum standards set forth in these rules detailing the performance of all methods employed by the facility used to test the analytes it reports and made available for testing analysts to follow at all times.

a. The current laboratory director must approve, sign and date each procedure. If any modifications are made to those procedures, the laboratory director must approve, sign and date the revised version prior to use.

b. A Retail Marijuana Testing Facility must maintain a copy of all Standard Operating Procedure Manual to include any revised copies for a minimum of three years. See Rule R 901 – Business Records Required.
5. **Analytical Processes.** A Retail Marijuana Testing Facility must maintain a listing of all analytical methods used and all analytes tested and reported. The Retail Marijuana Testing Facility must provide this listing to the Division upon request.

6. **Proficiency Testing.** A Retail Marijuana Testing Facility must successfully participate in a Division approved proficiency testing program in order to obtain and maintain certification.

7. **Quality Assurance and Quality Control.** A Retail Marijuana Testing Facility must establish and follow a quality assurance and quality control program to ensure sufficient monitoring of laboratory processes and quality of results reported.

8. **Security.** A Retail Marijuana Testing Facility must be located in a secure setting as to prevent unauthorized persons from gaining access to the testing and storage areas of the laboratory.

9. **Chain of Custody.** A Retail Marijuana Testing Facility must establish a system to document the complete chain of custody for samples from receipt through disposal.

10. **Space.** A Retail Marijuana Testing Facility must be located in a fixed structure that provides adequate infrastructure to perform analysis in a safe and compliant manner consistent with federal, state and local requirements.

11. **Records.** A Retail Marijuana Testing Facility must establish a system to retain and maintain all required records for a period not less than three years. See Rules R 710 – Retail Marijuana Testing Facilities: Records Retention and R 901 – Business Records Required.

12. **Results Reporting.** A Retail Marijuana Testing Facility must establish processes to ensure results are reported in a timely and accurate manner.

13. **Conduct While Seeking Certification.** A Retail Marijuana Testing Facility, and its agents and employees, shall provide all documents and information required or requested by the Colorado Department of Public Health and Environment and its employees, and the Division and its employees in a full, faithful, truthful, and fair manner.

C. A violation of this rule may be considered a license violation affecting public safety.

**Basis and Purpose – R 704**

The statutory authority for this rule is found at subsection 12-43.4-202(2)(b), 12-43.4-202(3)(a)(III), 12-43.4-202(3)(a)(IV), 12-43.4-202(3)(b)(IX), and section 12-43.4-405, C.R.S. The purpose of this rule is to establish personnel standards for the operation of a Retail Marijuana Testing Facility.

**R 704 – Retail Marijuana Testing Facilities: Personnel**

A. **Laboratory Director.** The laboratory director is responsible for the overall analytical operation and quality of the results reported by the Retail Marijuana Testing Facility, including the employment of personnel who are competent to perform test procedures, and record and report test results promptly, accurately, and proficiently and for assuring compliance with the standards set forth in this rule.

1. The laboratory director may also serve as a supervisory analyst or testing analyst, or both, for a Retail Marijuana Testing Facility.
2. The laboratory director for a Retail Marijuana Testing Facility must meet one of the following qualification requirements:

   a. The laboratory director must be a Medical Doctor (M.D.) licensed to practice medicine in Colorado and have at least three years of full-time laboratory experience in a regulated laboratory environment performing analytical scientific testing in which the testing methods were recognized by an accrediting body; or

   b. The laboratory director must hold a doctoral degree in one of the natural sciences and have at least three years of full-time laboratory experience in a regulated laboratory environment performing analytical scientific testing in which the testing methods were recognized by an accrediting body; or

   c. The laboratory director must hold a master's degree in one of the natural sciences and have at least five years of full-time laboratory experience in a regulated laboratory environment performing analytical scientific testing in which the testing methods were recognized by an accrediting body.

B. What the Laboratory Director May Delegate. The laboratory director may delegate the responsibilities assigned under this rule to a qualified supervisory analyst, provided that such delegation is made in writing and a record of the delegation is maintained. See Rule R 901 – Business Records Required. Despite the designation of a responsibility, the laboratory director remains responsible for ensuring that all duties are properly performed.

C. Responsibilities of the Laboratory Director. The laboratory director must:

   1. Ensure that the Retail Marijuana Testing Facility has adequate space, equipment, materials, and controls available to perform the tests reported;

   2. Establish and adhere to a written standard operating procedure used to perform the tests reported;

   3. Ensure that testing systems developed and used for each of the tests performed in the laboratory provide quality laboratory services for all aspects of test performance, which includes the preanalytic, analytic, and postanalytic phases of testing;

   4. Ensure that the physical location and environmental conditions of the laboratory are appropriate for the testing performed and provide a safe environment in which employees are protected from physical, chemical, and biological hazards;

   5. Ensure that the test methodologies selected have the capability of providing the quality of results required for the level of testing the laboratory is certified to perform;

   6. Ensure that validation and verification test methods used are adequate to determine the accuracy, precision, and other pertinent performance characteristics of the method;

   7. Ensure that testing analysts perform the test methods as required for accurate and reliable results;

   8. Ensure that the laboratory is enrolled in and successfully participates in a Division approved proficiency testing program;

   9. Ensure that the quality control and quality assessment programs are established and maintained to assure the quality of laboratory services provided and to identify failures in quality as they occur;
10. Ensure the establishment and maintenance of acceptable levels of analytical performance for each test system;

11. Ensure that all necessary remedial actions are taken and documented whenever significant deviations from the laboratory's established performance specifications are identified, and that test results are reported only when the system is functioning properly;

12. Ensure that reports of test results include pertinent information required for interpretation;

13. Ensure that consultation is available to the laboratory's clients on matters relating to the quality of the test results reported and their interpretation of said results;

14. Employ a sufficient number of laboratory personnel who meet the qualification requirements and provide appropriate consultation, properly supervise, and ensure accurate performance of tests and reporting of test results;

15. Ensure that prior to testing any sample, all testing analysts receive the appropriate training for the type and complexity of tests performed, and have demonstrated and documented that they can perform all testing operations reliably to provide and report accurate results;

16. Ensure that policies and procedures are established for monitoring individuals who conduct preanalytical, analytical, and postanalytical phases of testing to assure that they are competent and maintain their competency to process specimens, perform test procedures and report test results promptly and proficiently, avoid conflicts of interests and whenever necessary, identify needs for remedial training or continuing education to improve skills;

17. Ensure that an approved standard operating procedure manual is available to all personnel responsible for any aspect of the testing process; and

18. Specify, in writing, the responsibilities and duties of each person engaged in the performance of the preanalytic, analytic, and postanalytic phases of testing, that identifies which examinations and procedures each individual is authorized to perform, whether supervision is required for specimen processing, test performance or results reporting, and whether consultant or laboratory director review is required prior to reporting test results.

C.5 Change in Laboratory Director. In the event that the laboratory director leaves employment at the Retail Marijuana Testing Facility, the Retail Marijuana Testing Facility shall:

1. Provide written notice to the Colorado Department of Public Health and Environment and the Marijuana Enforcement Division within seven days of the laboratory director’s departure; and

2. Designate an interim laboratory director within seven days of the laboratory director’s departure. At a minimum, the interim laboratory director must meet the qualifications of a supervisory analyst.

3. The Retail Marijuana Testing Facility must hire a permanent laboratory director within 60 days from the date of the previous laboratory director’s departure.

4. Notwithstanding the requirement of subparagraph (C.5)(3), the Retail Marijuana Testing Facility may submit a waiver request to the Division Director to receive an additional 60
days to hire a permanent laboratory director provided that the Retail Marijuana Testing Facility submits a detailed oversight plan along with the waiver request.

D. **Supervisory Analyst.** Supervisory analysts must meet one of the qualifications for a laboratory director or have at least a bachelor’s degree in one of the natural sciences and three years of full-time laboratory experience in a regulated laboratory environment performing analytical scientific testing in which the testing methods were recognized by an accrediting body. A combination of education and experience may substitute for the three years of full-time laboratory experience.

E. **Laboratory Testing Analyst**

1. **Educational Requirements.** An individual designated as a testing analyst must meet one of the qualifications for a laboratory director or supervisory analyst or have at least a bachelor’s degree in one of the natural sciences and one year of full-time experience in laboratory testing.

2. **Responsibilities.** In order to independently perform any test for a Retail Marijuana Testing Facility, an individual must at least meet the educational requirements for a testing analyst.

**R 705 – Basis and Purpose**

The statutory authority for this rule is found at subsection 12-43.4-202(3)(a)(IV) and section 12-43.4-405, C.R.S. The purpose of this rule is to establish Standard Operating Procedure Manual standards for the operation of a Retail Marijuana Testing Facility.


A. A standard operating procedure manual must include, but need not be limited to, procedures for:

1. Specimen receiving;

2. Specimen accessioning;

3. Specimen storage;

4. Identifying and rejecting unacceptable specimens;

5. Recording and reporting discrepancies;

6. Security of specimens, aliquots and extracts and records;

7. Validating a new or revised method prior to testing specimens to include: accuracy, precision, analytical sensitivity, analytical specificity (interferences), LOD, LOQ, and verification of the reportable range;

8. Aliquoting specimens to avoid contamination and carry-over;

9. Sample retention to assure stability for 90 days;

10. Disposal of specimens;

11. The theory and principles behind each assay;
12. Preparation and identification of reagents, standards, calibrators and controls and ensure all standards are traceable to National Institute of Standards of Technology (“NIST”);

13. Special requirements and safety precautions involved in performing assays;

14. Frequency and number of control and calibration materials;

15. Recording and reporting assay results;

16. Protocol and criteria for accepting or rejecting analytical procedure to verify the accuracy of the final report;

17. Pertinent literature references for each method;

18. Current step-by-step instructions with sufficient detail to perform the assay to include equipment operation and any abbreviated versions used by a testing analyst;

19. Acceptability criteria for the results of calibration standards and controls as well as between two aliquots or columns;

20. A documented system for reviewing the results of testing calibrators, controls, standards, and subject tests results, as well as reviewing for clerical errors, analytical errors and any unusual analytical results? Are corrective actions implemented and documented, and does the laboratory contact the requesting entity; and

21. Policies and procedures to follow when Samples are requested for referral and testing by another certified Retail Marijuana Testing Facility or an approved local or state agency's laboratory.

22. Testing Industrial Hemp, if the Retail Marijuana Testing Facility tests Industrial Hemp.

R 706 – Basis and Purpose

The statutory authority for this rule is found at subsection 12-43.4-202(3)(a)(IV) and section 12-43.4-405, C.R.S. The purpose of this rule is to establish analytical processes standards for the operation of a Retail Marijuana Testing Facility.

R 706 – Retail Marijuana Testing Facilities: Analytical Processes

A. Gas Chromatography (“GC”). A Retail Marijuana Testing Facility using GC must:

1. Document the conditions of the gas chromatograph, including the detector response;

2. Perform and document preventive maintenance as required by the manufacturer;

3. Ensure that records are maintained and readily available to the staff operating the equipment;

4. Document the performance of new columns before use;

5. Use an internal standard for each qualitative and quantitative analysis that has similar chemical and physical properties to that of the compound identified;

6. Establish criteria of acceptability for variances between different aliquots and different columns; and
7. Document the monitoring of the response (area or peak height) of the internal standard to ensure consistency overtime of the analytical system.

B. Gas Chromatography Mass Spectrometry ("GC/MS"). A Retail Marijuana Testing Facility using GC/MS must:

1. Perform and document preventive maintenance as required by the manufacturer;

2. Document the changes of septa as specified in the Standard Operating Procedure;

3. Document liners being cleaned or replaced as specified in the Standard Operating Procedure;

4. Ensure that records are maintained and readily available to the staff operating the equipment;

5. Maintain records of mass spectrometric tuning;

6. Establish written criteria for an acceptable mass-spectrometric tune;

7. Document corrective actions if a mass-spectrometric tune is unacceptable;

8. Monitor analytic analyses to check for contamination and carry-over;

9. Use selected ion monitoring within each run to assure that the laboratory compare ion ratios and retention times between calibrators, controls and specimens for identification of an analyte;

10. Use an internal standard for qualitative and quantitative analysis that has similar chemical and physical properties to that of the compound identified and is isotopically labeled when available or appropriate for the assay;

11. Document the monitoring of the response (area or peak height) for the internal standard to ensure consistency overtime of the analytical system;

12. Define the criteria for designating qualitative results as positive;

13. When a library is used to qualitatively match an analyte, the relative retention time and mass spectra from a known standard or control must be run on the same system before reporting the results; and

14. Evaluate the performance of the instrument after routine and preventive maintenance (e.g. clipping or replacing the column or cleaning the source) prior to analyzing subject samples.

C. Immunoassays. A Retail Marijuana Testing Facility using Immunoassays must:

1. Perform and document preventive maintenance as required by the manufacturer;

2. Ensure that records are maintained and readily available to the staff operating the equipment;
3. Validate any changes or modifications to a manufacturer’s approved assays or testing methods when a sample is not included within the types of samples approved by the manufacturer; and

4. Define acceptable separation or measurement units (absorbance intensity or counts per minute) for each assay, which must be consistent with manufacturer’s instructions.

D. Thin Layer Chromatography (“TLC”). A Retail Marijuana Testing Facility using TLC must:

1. Apply unextracted standards to each thin layer chromatographic plate;

2. Include in their written procedure the preparation of mixed solvent systems, spray reagents and designation of lifetime;

3. Include in their written procedure the storage of unused thin layer chromatographic plates;

4. Evaluate, establish, and document acceptable performance for new thin layer chromatographic plates before placing them into service;

5. Verify that the spotting technique used precludes the possibility of contamination and carry-over;

6. Measure all appropriate RF values for qualitative identification purposes;

7. Use and record sequential color reactions, when applicable;

8. Maintain records of thin layer chromatographic plates; and

9. Analyze an appropriate matrix blank with each batch of specimens analyzed.

E. High Performance Liquid Chromatography (“HPLC”). A Retail Marijuana Testing Facility using HPLC must:

1. Perform and document preventive maintenance as required by the manufacturer;

2. Ensure that records are maintained and readily available to the staff operating the equipment;

3. Monitor and document the performance of the HPLC instrument each day of testing;

4. Evaluate the performance of new columns before use;

5. Create written standards for acceptability when eluting solvents are recycled;

6. Use an internal standard for each qualitative and quantitative analysis that has similar chemical and physical properties to that of the compound identified when available or appropriate for the assay; and

7. Document the monitoring of the response (area or peak height) of the internal standard to ensure consistency overtime of the analytical system.

F. Liquid Chromatography Mass Spectroscopy (“LC/MS”). A Retail Marijuana Testing Facility using LC/MS must:
1. Perform and document preventive maintenance as required by the manufacturer;

2. Ensure that records are maintained and readily available to the staff operating the equipment;

3. Maintain records of mass spectrometric tuning;

4. Document corrective actions if a mass-spectrometric tune is unacceptable;

5. Use an internal standard with each qualitative and quantitative analysis that has similar chemical and physical properties to that of the compound identified and is isotopically labeled when available or appropriate for the assay;

6. Document the monitoring of the response (area or peak height) of the internal standard to ensure consistency overtime of the analytical system;

7. Compare two transitions and retention times between calibrators, controls and specimens within each run;

8. Document and maintain records when changes in source, source conditions, eluent, or column are made to the instrument; and

9. Evaluate the performance of the instrument when changes in: source, source conditions, eluent, or column are made prior to reporting test results.

G. Other Analytical Methodology. A Retail Marijuana Testing Facility using other methodology or new methodology must:

1. Implement a performance based measurement system for the selected methodology and validate the method following good laboratory practices prior to reporting results. Validation of other or new methodology must include when applicable, but is not limited to:
   a. Verification of Accuracy
   b. Verification of Precision
   c. Verification of Analytical Sensitivity
   d. Verification of Analytical Specificity
   e. Verification of the LOD
   f. Verification of the LOQ
   g. Verification of the Reportable Range
   h. Identification of Interfering Substances

2. Validation of the other or new methodology must be documented.

3. Prior to use, other or new methodology must have a standard operating procedure approved and signed by the laboratory director.
4. Testing analysts must have documentation of competency assessment prior to testing samples.

5. Any changes to the approved other or new methodology must be revalidated and documented prior to testing samples.

R 707 – Basis and Purpose

The statutory authority for this rule is found at subsection 12-43.4-202(3)(a)(IV) and section 12-43.4-405, C.R.S. The purpose of this rule is to establish a proficiency testing program for Retail Marijuana Testing Facilities.

R 707 – Retail Marijuana Testing Facilities: Proficiency Testing

A. Proficiency Testing Required. A Retail Marijuana Testing Facility must participate in a proficiency testing program for each approved category in which it seeks certification under Rule R 703.

B. Participation in Designated Event. If required by the Division as part of certification, the Retail Marijuana Testing Facility must have successfully participated in a proficiency testing event in the category for which it seeks certification, within the preceding 12 months.

C. Continued Certification. To maintain continued certification, a Retail Marijuana Testing Facility must participate in the designated proficiency testing program with continued satisfactory performance as determined by the Division as part of certification. The Division may designate local agency, state agency, or third-party to provide proficiency testing.

D. Analyzing Samples. A Retail Marijuana Testing Facility must analyze proficiency testing samples using the same procedures with the same number of replicate analyses, standards, testing analysts and equipment as used for product testing.

E. Challenge Attestation. The laboratory director and all testing analysts that participated in a proficiency testing event must sign corresponding attestation statements.

F. Laboratory Director Must Review Results. The laboratory director must review and evaluate all proficiency testing results.

G. When Remedial Action Required. A Retail Marijuana Testing Facility must take and document remedial action when a score of less than 100% is achieved on any test during a proficiency testing event. Remedial action documentation must include a review of samples tested and results reported since the last successful proficiency testing challenge.

H. What Constitutes Successful or Unsatisfactory Participation in Proficiency Testing Event. Successful participation is the positive identification of 80% of the target analytes that the Retail Marijuana Testing Facility reports to include quantitative results when applicable. Any false positive results reported will be considered an unsatisfactory score for the proficiency testing event.

I. Consequence of Unsuccessful Participation in Proficiency Testing Event. Unsuccessful participation in any aspect of proficiency testing may result in limitation, suspension or revocation of Rule R 703 certification.
R 708 – Basis and Purpose

The statutory authority for this rule is found at subsection 12-43.4-202(3)(a)(IV) and section 12-43.4-405, C.R.S. The purpose of this rule is to establish quality assurance and quality assurance standards for a Retail Marijuana Testing Facility.

R 708 – Retail Marijuana Testing Facilities: Quality Assurance and Quality Control

A. Quality Assurance Program Required. A Retail Marijuana Testing Facility must establish, monitor, and document the ongoing review of a quality assurance program that is sufficient to identify problems in the laboratory preanalytic, analytic and postanalytic systems when they occur and must include, but is not limited to:

1. Review of instrument preventive maintenance, repair, troubleshooting and corrective actions documentation must be performed by the laboratory director or designated supervisory analyst on an ongoing basis to ensure the effectiveness of actions taken over time;

2. Review by the laboratory director or designated supervisory analyst of all ongoing quality assurance; and

3. Review of the performance of validated methods used by the Retail Marijuana Testing Facility to include calibration standards, controls and the Standard Operating Procedure used for analysis on an ongoing basis to ensure quality improvements are made when problems are identified or as needed.

B. Quality Control Measures Required. A Retail Marijuana Testing Facility must establish, monitor and document on an ongoing basis the quality control measures taken by the laboratory to ensure the proper functioning of equipment, validity of standard operating procedures and accuracy of results reported. Such quality control measures must include, but shall not be limited to:

1. Documentation of instrument preventive maintenance, repair, troubleshooting and corrective actions taken when performance does not meet established levels of quality;

2. Review and documentation of the accuracy of automatic and adjustable pipettes and other measuring devices when placed into service and annually thereafter;

3. Cleaning, maintaining and calibrating as needed the analytical balances and in addition, verifying the performance of the balance annually using certified weights to include three or more weights bracketing the ranges of measurement used by the laboratory;

4. Annually verifying and documenting the accuracy of thermometers using a NIST traceable reference thermometer;

5. Recording temperatures on all equipment when in use where temperature control is specified in the standard operating procedures manual, such as water baths, heating blocks, incubators, ovens, refrigerators, and freezers;

6. Properly labeling reagents as to the identity, the concentration, date of preparation, storage conditions, lot number tracking, expiration date and the identity of the preparer;

7. Avoiding mixing different lots of reagents in the same analytical run;
8. Performing and documenting a calibration curve with each analysis using at minimum three calibrators throughout the reporting range;

9. For qualitative analyses, analyzing, at minimum, a negative and a positive control with each batch of samples analyzed;

10. For quantitative analyses, analyzing, at minimum, a negative and two levels of controls that challenge the linearity of the entire curve;

11. Using a control material or materials that differ in either source or, lot number, or concentration from the calibration material used with each analytical run;

12. For multi-analyte assays, performing and documenting calibration curves and controls specific to each analyte, or at minimum, one with similar chemical properties as reported in the analytical run;

13. Analyzing an appropriate matrix blank and control with each analytical run, when available;

14. Analyzing calibrators and controls in the same manner as unknowns;

15. Documenting the performance of calibration standards and controls for each analytical run to ensure the acceptability criteria as defined in the Standard Operating Procedure is met;

16. Documenting all corrective actions taken when unacceptable calibration, control, and standard or instrument performance does not meet acceptability criteria as defined in the Standard Operating Procedure;

17. Maintaining records of validation data for any new or modified methods to include; accuracy, precision, analytical specificity (interferences), LOD, LOQ, and verification of the linear range; and

18. Performing testing analysts that follow the current Standard Operating Procedure Manual for the test or tests to be performed.

R 709 – Basis and Purpose

The statutory authority for this rule is found at subsection 12-43.4-202(3)(a)(IV) and section 12-43.4-405, C.R.S. The purpose of this rule is to establish chain of custody standards for a Retail Marijuana Testing Facility. In addition, it establishes the requirement that a Retail Marijuana Testing Facility follow an adequate chain of custody for samples it maintains.

R 709 – Retail Marijuana Testing Facilities: Chain of Custody

General Requirements. A Retail Marijuana Testing Facility must establish an adequate chain of custody and requirement instructions that must include, but not be limited to;

1. Issue instructions for the minimum requirements and storage requirements;

2. Document the condition of the external package and integrity seals utilized to prevent contamination of, or tampering with, the samples;

3. Document the condition and amount of samples provided at the time of receipt;
4. Document all persons handling the original Sample Samples, aliquots, and extracts;

5. Document all transfers of Sample Samples, aliquots, and extracts referred to another certified Retail Marijuana Testing Facility Licensee for additional testing or whenever requested by a client;

6. Maintain a current list of authorized personnel and restrict entry to the laboratory to only those authorized;

7. Secure the Laboratory during non-working hours;

8. Secure short and long-term storage areas when not in use;

9. Utilize a secured area to log-in and aliquot Sample Samples;

10. Ensure Sample Samples are stored appropriately; and

11. Document the disposal of Sample Samples, aliquots, and extracts.

Basis and Purpose – R 710

The statutory authority for this rule is found at subsection 12-43.4-202(3)(a)(IV) and section 12-43.4-405, C.R.S. The purpose of this rule is to establish records retention standards for a Retail Marijuana Testing Facility.

R 710 –Retail Marijuana Testing Facilities: Records Retention


B. Specific Business Records Required: Three Year Record Retention. A Retail Marijuana Testing Facility must establish processes to preserve records the current year and three preceding calendar years for a minimum of three years that includes, but is not limited to;

1. Test Results: including final and amended reports, and identification of analyst and date of analysis;

2. Quality Control and Quality Assurance Records: including accession numbers, specimen type, and acceptable reference range parameters;

3. Standard Operating Procedure Standard operating procedures;

4. Personnel Records;

5. Chain of Custody Records;

6. Proficiency Testing Proficiency Testing Records; and

7. Analytical Data to include printouts generated by the instrumentation, raw data of calibration standards and curves.

C. Specific Business Records Required: Five Year Retention. A Retail Marijuana Testing Facility must establish processes to preserve records for a minimum of five years of testing to include, accession numbers, specimen type, raw data of calibration standards and curves, controls and
subject results, final and amended reports, acceptable reference range parameters, and
identification of analyst and date of analysis.

Basis and Purpose – R 711

The statutory authority for this rule is found at subsection 12-43.4-202(3)(a)(IV) and section 12-43.4-405, C.R.S. The purpose of this rule is to establish reporting standards for a Retail Marijuana Testing Facility.

R 711 – Reporting and Inventory Tracking System

Required Procedures. A Retail Marijuana Testing Facility must establish procedures to ensure that results are accurate, precise and scientifically valid prior to reporting that include the following processes:

A. Reports: Every final report, whether submitted to the Division, to a Retail Marijuana Establishment or to any other Person authorized to receive the report, must comply with the following:

1. Report quantitative results that are only above the lowest concentration of calibrator or standard used in the analytical run;

2. Verify results that are below the lowest concentration of calibrator or standard and above the LOQ by using a blank and a standard that falls below the expected value of the analyte in the sample in duplicate prior to reporting a quantitative result;

3. Qualitatively report results below the lowest concentration of calibrator or standard and above the LOD as either trace or using a non-specific numerical designation;

4. Adequately document the available external chain of custody information;

5. Ensure all final reports contain the name and location of the Retail Marijuana Testing Facility Licensee, name and unique identifier of sample, submitting client, sample received date, date of report, type of specimen tested, test result, units of measure, and any other information or qualifiers needed for interpretation when applicable to the test method and results being reported, to include any identified and documented discrepancies;

6. Provide the final report to the Division, the Retail Marijuana Establishment or the other Person authorized to receive the report, submitting client in a timely manner, and

B. Inventory Tracking System: Each Retail Marijuana Testing Facility shall:

7. Must notify the Division of all test results for mandatory testing to the Division as part of daily reconciliation and in accordance with all Inventory Tracking System Procedures under Rule R 309 – Retail Marijuana Establishments: Inventory Tracking System.

2. As part of Inventory Tracking System reporting, when results of tested samples exceed maximum levels of allowable contamination or otherwise result in failed contaminant testing, the Retail Marijuana Testing Facility shall, in the Inventory Tracking System, indicate failed test results for the Inventory Tracking System package, Harvest Batch or Production Batch associated with the failed Sample.

Basis and Purpose – R 712

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(IV), 12-43.4-202(3)(a)(VII), 12-43.4-202(3)(a)(VIII), 12-43.4-202(3)(a)(X), 12-43.4-202(3)(a)(XI), 12-43.4-405.
202(3)(a)(XII), 12-43.4-202(3)(b)(III), 12-43.4-202(3)(b)(IX), 12-43.4-202(3)(c)(V), 12-43.4-202(3)(c)(VI),
12-43.4-202(3)(c)(VII), and 12-43.4-405, C.R.S. Authority also exists in the Colorado Constitution at
Article XVIII, Subsection 16(5)(a)(VII). The purpose of this rule is to establish the portion of the Division’s
Mandatory Testing and Random Sampling program that is applicable to Retail Marijuana Testing
Facilities. The allowable plus or minus 15% potency variance has been included in the rule pursuant to
the mandate of House Bill 15-1283, which modified 12-43.4-202(3)(a)(IV)(E), C.R.S. The bill established
that the acceptable potency variance, which the Division must determine, must be at least plus or minus
15 percent.

R 712 – Retail Marijuana Testing Facilities: Sampling and Testing Program

A. **Division Authority.** The Division may elect to require that a **Sample Test Batch** be submitted to a
specific Retail Marijuana Testing Facility for testing to verify compliance, perform investigations,
compile data or address a public health and safety concern.

B. **Sample Test Batches**

1. **Retail Marijuana and Retail Marijuana Concentrate.** A Retail Marijuana Testing Facility
must establish a standard minimum weight of Retail Marijuana and Retail Marijuana
Concentrate that must be included in a **Sample Test Batch** for every type of test that it
conducts.

2. **Retail Marijuana Product.** A Retail Marijuana Testing Facility must establish a standard
number of finished product(s) it requires to be included in each **Sample Test Batch** of
Retail Marijuana Product for every type of test that it conducts.

C. **Rejection of Test Batches and Samples**

1. A Retail Marijuana Testing Facility may not accept a **Sample Test Batch** that is smaller
than its standard minimum amount.

2. A Retail Marijuana Testing Facility may not accept a **Test Batch or Sample** that it knows
was not taken in accordance with these rules or any additional Division sampling
procedures or was not collected by Division personnel.

D. **Notification of Retail Marijuana Establishment.** If Retail Marijuana, Retail Marijuana Concentrate
or Retail Marijuana Product failed a contaminant test, then the Retail Marijuana Testing Facility
must immediately notify the Retail Marijuana Establishment that submitted the **Sample Test** for
testing and report the failure in accordance with the all-Inventory Tracking System procedures
reporting requirements in Rule R 711(B).

E. **Permissible Levels of Contaminants.** If Retail Marijuana, Retail Marijuana Concentrate or Retail
Marijuana Product is found to have a contaminant in levels exceeding those established as
permissible under this rule, then it shall be considered to have failed contaminant testing.
Notwithstanding the permissible levels established in this rule, the Division reserves the right to
determine, upon good cause and reasonable grounds, that a particular **Sample Test Batch**
presents a risk to the public health or safety and therefore shall be considered to have failed a
contaminant test.

1. **Microbials (Bacteria, Fungus)**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Acceptable Limits Per Gram</th>
<th>Product to be Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shiga-toxin producing Escherichia col (STEC)* – Bacteria</td>
<td>&lt; 1 Colony Forming Unit (CFU)</td>
<td>Flower; Retail Marijuana Products; Water- Heat/Pressure Based and</td>
</tr>
</tbody>
</table>
### 2. Mycotoxins

<table>
<thead>
<tr>
<th>Substance</th>
<th>Acceptable Limits Per Gram</th>
<th>Product to be Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aflatoxins (B1, B2, G1, and G2)</td>
<td>&lt; 20 parts per billion (PPB) (total of B1 + B2 + G1 + G2)</td>
<td>Solvent-Based Concentrates manufactured from Retail Marijuana flower or trim that failed microbial testing</td>
</tr>
<tr>
<td>Ochratoxin A</td>
<td>&lt; 20 parts per billion (PPB)</td>
<td></td>
</tr>
</tbody>
</table>

### 32. Residual Solvents

<table>
<thead>
<tr>
<th>Substance</th>
<th>Acceptable Limits Per Gram</th>
<th>Product to be Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>&lt; 1,000 Parts Per Million (PPM)</td>
<td></td>
</tr>
<tr>
<td>Butanes</td>
<td>&lt; 1,000 Parts Per Million (PPM)</td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td>&lt; 1,000 Parts Per Million (PPM)</td>
<td></td>
</tr>
<tr>
<td>Heptanes</td>
<td>&lt; 1,000 Parts Per Million (PPM)</td>
<td></td>
</tr>
<tr>
<td>Isopropyl Alcohol</td>
<td>&lt; 1,000 Parts Per Million (PPM)</td>
<td></td>
</tr>
<tr>
<td>Propane</td>
<td>&lt; 1,000 Parts Per Million (PPM)</td>
<td></td>
</tr>
<tr>
<td>Benzene**</td>
<td>&lt; 2 Parts Per Million (PPM)</td>
<td>Solvent-Based Medical Marijuana Concentrate</td>
</tr>
<tr>
<td>Toluene**</td>
<td>&lt; 180 Parts Per Million (PPM)</td>
<td></td>
</tr>
<tr>
<td>Pentane</td>
<td>&lt; 1,000 Parts Per Million (PPM)</td>
<td></td>
</tr>
<tr>
<td>Hexane**</td>
<td>&lt; 60 Parts Per Million (PPM)</td>
<td></td>
</tr>
<tr>
<td>Total Xylenes (m,p,o-xylenes)**</td>
<td>&lt; 430 Parts Per Million (PPM)</td>
<td></td>
</tr>
<tr>
<td>Any other solvent not permitted for use pursuant to Rule R 605.</td>
<td>None Detected</td>
<td></td>
</tr>
</tbody>
</table>

**Note: These solvents are not approved for use. Due to their possible presence in the solvents approved for use per Rule R 605, limits have been listed here accordingly.**

### 43. Metals

<table>
<thead>
<tr>
<th>Substance</th>
<th>Acceptable Limits Per Gram</th>
<th>Product to be Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metals (Arsenic, Cadmium, Lead and Mercury)</td>
<td>Lead – Max Limit: &lt; 1.0 ppm Arsenic – Max Limit: &lt; 0.4 ppm Cadmium – Max Limit: &lt; 0.4 ppm Mercury – Max Limit: &lt; 0.2 ppm</td>
<td>Flower; Water-, Food-, Heat/Pressure Based, and Solvent-Based Concentrates</td>
</tr>
</tbody>
</table>

### 54. Pesticides
Substance | Acceptable Limits Per Gram | Product to be Tested
---|---|---
Abamectin (Avermectins: B1a & B1b) | < 0.07 Parts Per Million (PPM) | Flower, Water-, Food-, Heat/Pressure and Solvent-Based Concentrates
Azoxystrobin | < 0.02 Parts Per Million (PPM) | 
Bifenazate | < 0.02 Parts Per Million (PPM) | 
Etoxazole | < 0.01 Parts Per Million (PPM) | 
Imazalil | < 0.04 Parts Per Million (PPM) | 
Imidacloprid | < 0.02 Parts Per Million (PPM) | 
Malathion | < 0.05 Parts Per Million (PPM) | 
Myclobutanil | < 0.04 Parts Per Million (PPM) | 
Permethrin (mix of isomers) | < 0.04 Parts Per Million (PPM) | 
Spinosad (Mixture of A and D) | < 0.06 Parts Per Million (PPM) | 
Spiromesifen | < 0.03 Parts Per Million (PPM) | 
Spirotetramat | < 0.02 Parts Per Million (PPM) | 
Tebuconazole | < 0.01 Parts Per Million (PPM) | 

6. Other Contaminants

| Pesticide | If testing identifies the use of a banned Pesticide not listed in section 5 above, or the improper application of a permitted Pesticide, then that SampleTest Batch shall be considered to have failed contaminant testing.

| Chemicals | If SampleTest Batch is found to contain levels of any chemical that could be toxic if consumed, then the Division may determine that the SampleTest Batch has failed contaminant testing.

| Microbials | If SampleTest Batch is found to contain levels of any microbial that could be toxic if consumed, then the Division may determine that the SampleTest Batch has failed contaminant testing.

5. **Division Notification.** A Retail Marijuana Testing Facility must notify the Division by timely input in the Inventory Tracking System if a SampleTest Batch is found to contain levels of a contaminant not listed within this rule that could be injurious to human health if consumed.

F. **Potency Testing**

1. **Cannabinoids Potency Profiles.** A Retail Marijuana Testing Facility may test and report results for any cannabinoid provided the test is conducted in accordance with the Division’s Retail Marijuana Testing Facility Certification Policy Statement.

2. **Reporting of Results**

   a. For potency tests on Retail Marijuana and Retail Marijuana Concentrate, results must be reported by listing a single percentage concentration for each cannabinoid that represents an average of all sample Samples within the SampleTest Batch. This includes reporting of Total THC in addition to each cannabinoid required in Rule R 1503.
b. For potency tests conducted on Retail Marijuana Product, whether conducted on each individual Production Batch or via Process Validation per rule R 1503, results must be reported by listing the total number of milligrams contained within a single Retail Marijuana Product unit for sale for each Cannabinoid and affirming the THC content is homogenous.

3. **Dried Flower Retail Marijuana.** All potency tests conducted on Retail Marijuana must occur on dried and cured Retail Marijuana that is ready for sale.

4. **Failed Potency Tests for Retail Marijuana Products**
   
a. If an individually packaged Edible Retail Marijuana Product contained within a Sample Test Batch is determined to have more than 100 mgs of THC within it, then the Sample Test Batch shall be considered to have failed potency testing. Except that the potency variance provided for in subparagraph (F)(5) of this rule R 712 shall apply to potency testing.

b. If the THC content of a Retail Marijuana Product is determined through testing to not be homogenous, then it shall be considered to have failed potency testing. A Retail Marijuana Product shall be considered to not be homogenous if 10% of the infused portion of the Retail Marijuana Product contains more than 20% of the total THC contained within entire Retail Marijuana Product.

5. **Potency Variance.** A potency variance of no more than plus or minus 15% is allowed.
**R 1500 Series – Retail Marijuana Testing Program**

**Basis and Purpose – R 1501**

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(IV), 12-43.4-202(3)(a)(VIII), 12-43.4-202(3)(a)(XI), 12-43.4-202(3)(a)(XII), 12-43.4-202(3)(b)(III), 12-43.4-202(3)(b)(IX), 12-43.4-202(3)(c)(VII), 12-43.4-402(4), 12-43.4-403(5), 12-43.4-404(3), and 12-43.4-404(6), C.R.S. Authority also exists in the Colorado Constitution at Article XVIII, Subsection 16(5)(a)(VII). The purpose of this rule is to protect the public health and safety by establishing the contaminant testing and related process validation portion of the Division's Retail Marijuana sampling and testing program.

**R 1501 – Retail Marijuana Testing Program – Contaminant Testing**

A. **Contaminant Testing Required.** Until a Retail Marijuana Cultivation Facility’s or a Retail Marijuana Product Manufacturing Facility’s cultivation or production process has been validated under this rule, it shall not wholesale, transfer, or process into a Retail Marijuana Concentrate or Retail Marijuana Product any Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product unless Samples from the Harvest Batch or Production Batch from which that Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product was derived was tested by a Retail Marijuana Testing Facility for contaminants and passed all contaminant tests required by paragraph C of this rule.

B. **Validation of Process – Contaminant Testing**

1. **Retail Marijuana.** A Retail Marijuana Cultivation Facility’s cultivation process shall be deemed valid regarding Contaminants if every Harvest Batch that it produced during at least a six week period but no longer than a 12 week period passed all contaminant tests required by paragraph C of this rule. This must include at least 6 Samples Test Batches that contain Samples from entirely different Harvest Batches.

2. **Retail Marijuana Concentrate or Retail Marijuana Product.** A Retail Marijuana Cultivation Facility’s or a Retail Marijuana Products Manufacturing Facility’s production process shall be deemed valid regarding contaminants if every Production Batch that it produced during at least a four week period but no longer than an eight week period passed all contaminant tests required by paragraph C of this rule. This must include at least four Samples Test Batches that contain Samples from entirely different Production Batches.

3. **Process Validation is Effective for One Year.** Once a Retail Marijuana Cultivation Facility or Retail Marijuana Products Manufacturing Facility has successfully obtained process validation for contaminants, the process validation shall be effective for one year from the date of the last passing test required to satisfy the process validation requirements.

4. **Retail Marijuana Ongoing Contaminant Testing.** After successfully obtaining process validation, a Retail Marijuana Cultivation Facility shall test at least [placeholder] of all harvest batches produced for contaminants. If a Sample submitted for ongoing contaminant testing fails contaminant testing, the Retail Marijuana Cultivation Facility shall follow the procedure given in paragraph (F)(2) of this rule.

5. **Retail Marijuana Concentrate or Retail Marijuana Product – Ongoing Contaminant Testing.** After successfully obtaining process validation, a Retail Marijuana Cultivation Facility or Retail Marijuana Products Manufacturing Facility shall test at least [placeholder]...
of the Production Batches produced for contaminants. If a Sample submitted for ongoing contaminant testing fails contaminant testing, the Retail Marijuana Cultivation Facility or Retail Marijuana Products Manufacturing Facility shall follow the procedure given in paragraph (F)(2) of this rule.

C. Required Contaminant Tests

1. Microbial Contaminant Testing. Each Harvest Batch of Retail Marijuana and Production Batch of Water-, Heat/Pressure-, or Food-Based Retail Marijuana Concentrate and Retail Marijuana Product must be tested for microbial contamination by a Retail Marijuana Testing Facility. The microbial contamination test must include, but need not be limited to, testing to determine the presence of Salmonella sp. and shiga-toxin producing Escherichia coli., and the amount of total yeast and mold.

2. Repealed

3. Repealed.

4. Residual Solvent Contaminant Testing. Each Production Batch of Solvent-Based Retail Marijuana Concentrate produced by a Retail Marijuana Products Manufacturing Facility must be tested by a Retail Marijuana Testing Facility for residual solvent contamination. The residual solvent contamination test must include, but need not be limited to, testing to determine the presence of, and amounts present of, acetone, butane, ethanol, heptanes, isopropyl alcohol, propane, pentane, benzene*, toluene*, hexane*, and xylenes*. *Note: These solvents are not approved for use. Testing is required for these solvents due to their possible presence in the solvents approved for use per Rule R 605.

5. Mycotoxin Contaminant Testing. Each Production Batch of Solvent-Based Retail Marijuana Concentrate produced from Retail Marijuana that failed microbial contaminant testing produced by a Retail Marijuana Products Manufacturing Facility must be tested by a Retail Marijuana Testing Facility for mycotoxin contamination. The mycotoxin contaminant test must include, but need not be limited to, testing to determine the presence of, and amounts present of, aflatoxins (B1, B2, G1, and G2) and ochratoxin A. This is in addition to all other contaminant testing required by this paragraph C.

6. Pesticide Contaminant Testing. Each Harvest Batch of Retail Marijuana and Production Batch of Water-, Heat/Pressure-, Solvent-, or Food-Based Retail Marijuana Concentrate must be tested for Pesticide contamination by a Retail Marijuana Testing Facility. The Pesticide contamination test must include, but need not be limited to, testing to determine the presence of, and amounts present of, the Pesticides listed in Rule R 712(E)(5).

D. Additional Required Tests. The Division may require additional tests to be conducted on a Harvest Batch or Production Batch prior to a Retail Marijuana Cultivation Facility or a Retail Marijuana Product Manufacturing Facility wholesaling, transferring, or processing into a Retail Marijuana Concentrate or Retail Marijuana Product any Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product from that Harvest Batch or Production Batch. Additional tests may include, but need not be limited to, screening for Pesticide, chemical contaminants, biological contaminants, or other types of microbials, molds, metals, or residual solvents.

E. Exemptions

1. Retail Marijuana Concentrate. A Production Batch of Retail Marijuana Concentrate shall be considered exempt from this rule if the Retail Marijuana Products Manufacturing
Facility that produced it does not wholesale or transfer any portion of the Production Batch and uses the entire Production Batch to manufacture Retail Marijuana Product, except that a Solvent-Based Retail Marijuana Concentrate must still be submitted for residual solvent contaminant testing. The manufactured Retail Marijuana Product shall be subject to mandatory testing under this rule.

F. Required Re-Validation - Contaminants.

1. Material Change Re-validation. If a Retail Marijuana Cultivation Facility or a Retail Marijuana Product Manufacturing Facility makes a Material Change to its cultivation or production process, then it must have the first five Harvest Batches or Production Batches produced using the new standard operating procedures tested for all of the contaminants required by paragraph C of this rule regardless of whether its process has previously been validated regarding contaminants. If any of those tests fail, then the Retail Marijuana Establishment’s process must be re-validated.

   a. Cultivation. It shall be considered a Material Change if a Retail Marijuana Cultivation Facility begins using a new or different method for any material part of the cultivation process, including, but not limited to, changing from one growing medium to another.

   b. Pesticide. It shall be considered a Material Change if a Retail Marijuana Cultivation Facility begins using a new or different Pesticide during its cultivation process and the first five Harvest Batches produced using the new or different Pesticide must also undergo Pesticide testing.

   cb. Solvents. It shall be considered a Material Change if a Retail Marijuana Products Manufacturing Facility begins using a new or different solvent or combination of solvents or changes any parameters for equipment related to the solvent purging process, including but not limited to, time, temperature, or pressure.

   dc. Notification. A Retail Marijuana Cultivation Facility or a Retail Marijuana Product Manufacturing Facility that makes a Material Change must notify the Retail Marijuana Testing Facility that conducts contaminant testing on the first five Harvest Batches or Production Batches produced using the new standard operating procedures.

   ed. Testing Required Prior to Wholesale, Transfer or Processing. When a Harvest Batch or Production Batch is required to be submitted for testing pursuant to this rule, the Retail Marijuana Cultivation Facility or a Retail Marijuana Product Manufacturing Facility that produced it may not wholesale, transfer or process into a Retail Marijuana Concentrate or Retail Marijuana Product any of the Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product from that Harvest Batch or Production Batch.

2. Failed Contaminant Testing Re-Validation. If a Sample the Division requires to be tested fails contaminant testing, the Retail Marijuana Cultivation Facility or Retail Marijuana Products Manufacturing Facility shall follow the procedures in paragraph B of rule R 1507 for any Inventory Tracking System package, Harvest Batch, or Production Batch from which the failed Sample was taken. The Retail Marijuana Cultivation Facility or Retail Marijuana Products Manufacturing Facility shall also submit three additional Samples Test Batches of the Retail Marijuana or Retail Marijuana Product for contaminant testing by a Retail Marijuana Testing Facility within no more than 30 days. If any one of the three submitted Samples Test Batches fails contaminant testing, the Retail Marijuana
Cultivation Facility or Retail Marijuana Products Manufacturing Facility shall re-validate its process for contaminants.

3. **Expiration of Process Validation.** A Retail Marijuana Cultivation Facility or Retail Marijuana Products Manufacturing Facility shall be required to re-validate its process once the one year of process validation expires, or the Retail Marijuana Establishment shall comply with the requirements of paragraph A of this rule R 1501.

G. **Violation Affecting Public Safety.** Failure to comply with this rule may constitute a license violation affecting public safety.

**Basis and Purpose – R 1502**

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(IV), 12-43.4-202(3)(a)(VII), 12-43.4-202(3)(a)(VIII), 12-43.4-202(3)(a)(IX), 12-43.4-202(3)(a)(XI), 12-43.4-202(3)(a)(XII), 12-43.4-402(4), 12-43.4-403(5), 12-43.4-404(3), and 12-43.4-404(6), C.R.S. Authority also exists in the Colorado Constitution at Article XVIII, Subsection 16(5)(a)(VII). The purpose of this rule is to protect the public health and safety by establishing the mandatory testing portion of the Division’s Retail Marijuana sampling and testing program.

**R 1502 – Retail Marijuana Testing Program – Mandatory Testing**

A. **Required Sample Submission.** A Retail Marijuana Establishment may be required by the Division to submit a Sample(s) of Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product it possesses to a Retail Marijuana Testing Facility at any time regardless of whether its process has been validated and without notice.

1. Samples collected pursuant to this rule may be tested for potency or contaminants which may include, but may not be limited to, Pesticide, microbials, molds, metals, residual solvents, biological contaminants, and chemical contaminants.

2. When a Sample(s) is required to be submitted for testing, the Retail Marijuana Establishment may not sell, wholesale, transfer or process into a Retail Marijuana Concentrate or Retail Marijuana Product any Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product from the Inventory Tracking System package, Harvest Batch or Production Batch from which the Sample was taken, unless or until it passes all required testing.

B. **Methods for Determining Required Testing**

1. **Random Testing.** The Division may require Samples to be submitted for testing through any one or more of the following processes: random process, risk-based process or other internally developed process, regardless of whether a Retail Marijuana Establishment's process has been validated.

2. **Inspection or Enforcement Tests.** The Division may require a Retail Marijuana Establishment to submit a Sample for testing if the Division has reasonable grounds to believe that:
a. Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product is contaminated or mislabeled;

b. A Retail Marijuana Establishment is in violation of any product safety, health or sanitary law, rule or regulation; or

c. The results of a test would further an investigation by the Division into a violation of any law, rule or regulation.

3. Beta Testing. The Division may require a Retail Marijuana Establishment to submit Samples from certain randomly selected Harvest Batches or Production Batches for potency or contaminant testing prior to implementing mandatory testing.

C. Minimum Testing Standards. The testing requirements contained in the R 1500 series are the minimum required testing standards. Retail Marijuana Establishments are responsible for ensuring adequate testing on any Retail Marijuana, Retail Marijuana Concentrate, and/or Retail Marijuana Product they produce or Transfer to ensure the marijuana consumables are safe for human consumption.

D. Additional Sample Types. The Division may also require a Retail Marijuana Establishment to submit Samples comprised of items other than Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product to be tested for contaminants which may include, but may not be limited to, Pesticide, microbials, molds, metals, residual solvents, biological contaminants, and chemical contaminants. The following is a non-exhaustive list of the types of Samples that may be required to be submitted for contaminant testing:

1. Specific plant(s) or any portion of a plant(s),

2. Any growing medium, water or other substance used in the cultivation process,

3. Any water, solvent or other substance used in the processing of a Retail Marijuana Concentrate,

4. Any ingredient or substance used in the manufacturing of a Retail Marijuana Product; or

5. Swab of any equipment or surface.

E. Violation Affecting Public Safety. Failure to comply with this rule may constitute a license violation affecting public safety.

Basis and Purpose – R 1503

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(IV), 12-43.4-202(3)(a)(VII), 12-43.4-202(3)(a)(X), 12-43.4-202(3)(a)(XII), 12-43.4-202(3)(b)(III), 12-43.4-202(3)(b)(IX), 12-43.4-202(3)(c)(V), 12-43.4-202(3)(c)(VI), 12-43.4-202(3)(c)(VII), 12-43.4-402(4), 12-43.4-403(5), and 12-43.4-404(6), C.R.S. Authority also exists in the Colorado Constitution at Article XVIII, Subsection 16(5)(a)(VII). The purpose of this rule is to protect the public health and safety by establishing the potency testing and related process validation portion of the Division’s Retail Marijuana sampling and testing program.

R 1503 – Retail Marijuana Testing Program – Potency Testing

A. Potency Testing – General
1. **Sample Test Batches.** A Sample Test Batch submitted for potency testing may only be comprised of Samples that are of the same strain of Retail Marijuana or from the same Production Batch of Retail Marijuana Concentrate or Retail Marijuana Product.

2. **Cannabinoid Profile.** A potency test conducted pursuant to this rule must at least determine the level of concentration of THC, THCA, CBD, CBDA and CBN.

B. **Potency Testing for Retail Marijuana.**

1. **Initial Potency Testing.** A Retail Marijuana Cultivation Facility must have potency tests conducted by a Retail Marijuana Testing Facility on four Harvest Batches, created a minimum of one week apart, for each strain of Retail Marijuana that it cultivates.
   
   a. The first potency test must be conducted on each strain prior to the Retail Marijuana Cultivation Facility wholesaling, transferring or processing into a Retail Marijuana Concentrate any Retail Marijuana of that strain.
   
   b. All four potency tests must be conducted on each strain no later than December 1, 2014 or six months after the Retail Marijuana Cultivation Facility begins cultivating that strain, whichever is later.

2. **Ongoing Potency Testing.** After the initial four potency tests, a Retail Marijuana Cultivation Facility shall have each strain of Retail Marijuana that it cultivates tested for potency at least once every six months.

C. **Potency Testing for Retail Marijuana Concentrate.** A Retail Marijuana Cultivation Facility or Retail Marijuana Products Manufacturing Facility must have a potency test conducted by a Retail Marijuana Testing Facility on every Production Batch of Retail Marijuana Concentrate that it produces prior to wholesaling, transferring or processing into a Retail Marijuana Product any of the Retail Marijuana Concentrate from that Production Batch.

D. **Potency Testing for Retail Marijuana Product.**

1. **Potency Testing Required for non-Edible Retail Marijuana Product.** A Retail Marijuana Products Manufacturing Facility shall have potency tests conducted by a Retail Marijuana Testing Facility on every Production Batch of Retail Marijuana Product that is not Edible Retail Marijuana Product that it produces prior to transferring or wholesaling any of the non-Edible Retail Marijuana Product from that Production Batch.

1.5 **Potency Testing Required for Edible Retail Marijuana Product.** A Retail Marijuana Products Manufacturing Facility shall have potency tests conducted by a Retail Marijuana Testing Facility on every Production Batch of each type of Edible Retail Marijuana Product that it produces prior to transferring or wholesaling any of the Edible Retail Marijuana Product from that Production Batch, unless the Retail Marijuana Products Manufacturing Facility has successfully completed process validation for potency and homogeneity for the particular type of Edible Retail Marijuana Product.
2. Required Tests. Potency tests conducted on Retail Marijuana Product must determine the level of concentration of the required cannabinoids and whether or not THC is homogeneously distributed throughout the product.

3. Partially Infused Retail Marijuana Products. If only a portion of a Retail Marijuana Product is infused with Retail Marijuana, then the Retail Marijuana Products Manufacturing Facility must inform the Retail Marijuana Testing Facility of exactly which portions of the Retail Marijuana Product are infused and which portions are not infused.

E. Validation of Process - Potency and Homogeneity.

1. A Retail Marijuana Products Manufacturing Facility may process validate potency and homogeneity for each type of Edible Retail Marijuana Product it manufactures.

2. A Retail Marijuana Products Manufacturing Facility’s production process for a particular type of Edible Retail Marijuana Product shall be deemed valid regarding potency and homogeneity if every Production Batch that it produces for that particular type of Edible Retail Marijuana Product during at least a four week period but no longer than an eight week period passes all potency tests required by rule R 1503(D)(2). This must include at least four Test Batches that contain Samples from entirely different Production Batches.

3. Process Validation is Effective for One Year. Once a Retail Marijuana Products Manufacturing Facility has successfully obtained process validation for potency and homogeneity for a particular type of Edible Retail Marijuana Product that it produces, the process validation shall be effective for one year from the date of the last passing test required to satisfy the process validation requirements.

4. Edible Retail Marijuana Product Ongoing Potency and Homogeneity Testing. After the initial potency and homogeneity tests are passed, a Retail Marijuana Products Manufacturing Facility shall test for potency and homogeneity at least for [placeholder] of the Production Batches produced. If a Sample submitted for ongoing potency and homogeneity testing fails potency and homogeneity testing, the Retail Marijuana Products Manufacturing Facility shall follow the procedure given in paragraph (F)(2) of this rule.

F. Required Re-Validation - Potency and Homogeneity - Edible Retail Marijuana Product.

1. Material Change Re-Validation. If a Retail Marijuana Products Manufacturing Facility elects to process validate any Edible Retail Marijuana Product for potency and homogeneity and it makes a Material Change to its production process for that particular type of Edible Retail Marijuana Product, then the Retail Marijuana Products Manufacturing Facility must re-validate the production process.

   a. New Equipment. It shall be considered a Material Change if the Retail Marijuana Products Manufacturing Facility begins using new or different equipment for any material part of the production process.

   b. Notification. A Retail Marijuana Product Manufacturing Facility that makes a Material Change to the production process of a validated Edible Retail Marijuana Product must notify the Retail Marijuana Testing Facility that conducts potency and homogeneity testing on the first four Production Batches produced using the new standard operating procedures.
c. **Testing Required Prior to Wholesale or Transfer.** When a Production Batch is required to be submitted for testing pursuant to this rule, the Marijuana Product Manufacturing Facility that produced it may not wholesale or transfer Retail Marijuana Product from that Production Batch unless or until it obtains a passing test.

2. **Failed Potency Testing Re-Validation.** If a Sample the Division requires to be tested fails potency testing, the Retail Marijuana Products Manufacturing Facility shall follow the procedures in paragraph C of rule R 1507 for any *Inventory Tracking System* package or Production Batch associated with the failed Sample. The Retail Marijuana Products Manufacturing Facility shall also submit three additional *Sample Test Batches* of the Retail Marijuana Product for potency testing by a Retail Marijuana Testing Facility within no more than 30 days. If any one of the three submitted *Sample Test Batches* fails potency testing, the Retail Marijuana Products Manufacturing Facility shall re-validate its process for potency.

3. **Expiration of Process Validation.** A Retail Marijuana Products Manufacturing Facility shall be required to re-validate its process for each particular type of Edible Retail Marijuana Product it produces once the one year of process validation expires, or the Licensee shall comply with the requirements of the potency testing requirements found in rule R 1503(D)(1.5).

G. **Violation Affecting Public Safety.** Failure to comply with this rule may constitute a license violation affecting public safety.

**Basis and Purpose – R 1504**

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(IV), 12-43.4-202(3)(a)(VII), 12-43.4-202(3)(a)(VIII), 12-43.4-202(3)(a)(X), 12-43.4-202(3)(a)(XI), 12-43.4-202(3)(b)(III), 12-43.4-202(3)(b)(IX), 12-43.4-202(3)(c)(V), 12-43.4-202(3)(c)(VI), 12-43.4-402(4), 12-43.4-403(5), 12-43.4-404(3), and 12-43.4-404(6), C.R.S. Authority also exists in the Colorado Constitution at Article XVIII, Subsection 16(5)(a)(VII). The purpose of this rule is to protect the public health and safety by establishing sampling procedures and rules for the Division’s Retail Marijuana sampling and testing program.

**R 1504 – Retail Marijuana Testing Program – Sampling Procedures**

A. **Collection of Samples**

1. **Sample Collection.** All Samples submitted for testing pursuant to this rule must be collected by Division personnel or in accordance with the Division’s sampling policy which is found in the Colorado Department of Public Health and Environment Reference Library at https://www.colorado.gov/pacific/sites/default/files/Marijuana%20Testing%20Method%20Reference%20Library.pdf. This Reference Library may be continuously updated as new materials become available in accordance with section 25-1.5-106(3.5)(d), C.R.S.

2. **Sample Selection.** The Division may elect, at its sole direction, to assign Division personnel to collect Samples. Neither Aa Retail Marijuana Establishment, nor its Owners, and, employees or agents shall not attempt to influence the any Samples selected by Division personnel.
3. **Adulteration or Alteration Prohibited.** A Licensee or its agent shall not adulterate or alter, or attempt to adulterate or alter, any Samples of Retail Marijuana or Retail Marijuana Product for the purpose of circumventing contaminant testing detection limits or potency testing requirements. The Sample(s) collected and submitted for testing must be representative of the Harvest Batch or Production Batch being tested. A violation of this sub-paragraph (A)(3) shall be considered a license violation affecting public safety.

B. **Samples for Test Batches of Retail Marijuana and Retail Marijuana Concentrate.** Each Harvest Batch or Production Batch Test Batch of Retail Marijuana or Retail Marijuana Concentrate submitted for testing must be comprised of a representative selection of Samples.

1. **Minimum Number of Samples.** Until such time as the State Licensing Authority revises these rules to implement a statistical sampling model, at a minimum, each Harvest Batch or Production Batch Test Batch of Retail Marijuana or Retail Marijuana Concentrate must be comprised of at least the following number of separately taken Samples:

   a. For Test Batches comprised of Harvest Batches or Production Batches weighing up to 10 pounds, eight separate Samples must be taken and combined into one Test Batch per testing category.

   b. For Test Batches comprised of Harvest Batches or Production Batches weighing more than 10 pounds but less than 20 pounds, 12 separate Samples must be taken and combined into one Test Batch per testing category.

   c. For Test Batches comprised of Harvest Batches or Production Batches weighing 20 pounds or more but less than 30 pounds, 15 separate Samples must be taken and combined into one Test Batch per testing category.

   d. For Test Batches comprised of Harvest Batches or Production Batches weighing 30 pounds or more but less than 40 pounds, 18 separate Samples must be taken and combined into one Test Batch per testing category.

   e. For Test Batches comprised of Harvest Batches or Production Batches weighing 40 pounds or more but less than 100 pounds, 23 separate Samples must be taken and combined into one Test Batch per testing category.

   f. For Test Batches comprised of Harvest Batches or Production Batches weighing 100 pounds or more, 29 separate Samples must be taken and combined into one Test Batch per testing category.

2. **Multiple Harvest Batches or Production Batches.** If more than one Harvest Batch or Production Batch is combined into a single Test Batch, then that Test Batch must include at least one Sample from each Harvest Batch or Production Batch.

C. **Samples for Test Batches of Retail Marijuana Product**

1. **Finished Product.** Samples Test Batches of Retail Marijuana Product must be comprised of finished product that is packaged for sale.

2. **Multiple Production Batches.** If more than one Production Batch of Retail Marijuana Product is combined into a single Test Batch, then that Test Batch must include at least one finished product that is packaged for sale from each Production Batch combined into that Test Batch.
D. **Retail Marijuana Testing Facility Selection.** The Division will generally permit a Retail Marijuana Establishment to select which Retail Marijuana Testing Facility will test a Sample collected pursuant to this rule. However, the Division may elect, at its sole discretion, to assign a Retail Marijuana Testing Facility to test the Sample.

E. **Violation Affecting Public Safety.** Failure to comply with this rule may constitute a license violation affecting public safety.

**Basis and Purpose – R 1505**

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(IV), 12-43.4-202(3)(a)(VII), 12-43.4-202(3)(b)(III), 12-43.4-202(3)(b)(IX), 12-43.4-202(3)(c)(V), 12-43.4-202(3)(c)(VI), 12-43.4-202(3)(c)(VII), 12-43.4-402(4), 12-43.4-403(5), and 12-43.4-404(6), C.R.S. Authority also exists in the Colorado Constitution at Article XVIII, Subsection 16(5)(a)(VII). The purpose of this rule is to protect the public health and safety by establishing rules governing Sample Test Batches for the Division’s Retail Marijuana Sampling and Testing Program.

**R 1505 – Retail Marijuana Testing Program – Sample Test Batches**

This rule shall be effective on May 1, 2014.

A. **No Combination of Product Types.** A Sample Test Batch may not be a combination of any two or three of the following: Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product.

B. **Combining Samples**

1. **Harvest Batches and Production Batches.** The Division will generally permit a Retail Marijuana Cultivation Facility or Retail Marijuana Products Manufacturing Facility to combine Samples from any number of Harvest Batches or Production Batches created within a 7 day period into a single Test Batch for any contaminant testing required by rule. However, the Division may elect, at its sole discretion, to require a Test Batch to be comprised of Samples from only one Harvest Batch or Production Batch or a specifically identified quantity of Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Production.

2. **Packages.** The Division will generally permit a Retail Marijuana Establishment to combine Samples from any number of packages of Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product into a single Test Batch for any contaminant testing required by rule. However, the Division may elect, at its sole discretion, to require a Test Batch to be comprised of Samples from only one package or a specifically identified quantity of Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Production.

C. **Same Processes**

1. **General Applicability.** All Harvest Batches or Production Batches combined into a single Test Batch must be cultivated or produced using the same standard operating procedure.

2. **Retail Marijuana.** All Harvest Batches of Retail Marijuana combined into a single Test Batch must be cultivated using the same Pesticide and other agricultural chemicals. If a Retail Marijuana Cultivation Facility applies a Pesticide or other agriculture chemical to only a specific set of plants, then Samples from those plants must be placed within a separate Test Batch.
3. **Retail Marijuana Concentrate.** All Production Batches of Retail Marijuana Concentrate combined into a single Test Batch must be of the same category and produced using the same extraction methods and combination of solvents.

4. **Retail Marijuana Product.** All Production Batches of Retail Marijuana Product combined into a single Test Batch must be of the exact same product type and made using the same ingredients.

D. **Failed Contaminant Testing.** If a Sample Test Batch fails a contaminant test, then each Harvest Batch or Production Batch that was combined into that Test Batch shall be considered to have failed contaminant testing. See Rule R 1507.

E. **Violation Affecting Public Safety.** Failure to comply with this rule may constitute a license violation affecting public safety.

**Basis and Purpose – R 1506**

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(IV), 12-43.4-402(4), 12-43.4-403(5), and 12-43.4-404(6), C.R.S. Authority also exists in the Colorado Constitution at Article XVIII, Subsection 16(5)(a)(VII). The purpose of this rule is to protect the public health and safety by establishing rules governing the quarantining of potentially contaminated product and the destruction of product that failed contaminant or potency testing for Division’s Retail Marijuana Sampling and Testing Program.

**R 1506 – Retail Marijuana Testing Program – Costs**

This rule shall be effective on May 1, 2014.

**Costs.** The cost for all sampling and tests conducted pursuant to these rules shall be the financial responsibility of the Retail Marijuana Establishment that is required to submit the Sample for testing.

**Basis and Purpose – R 1507**

The statutory authority for this rule is found at subsections 12-43.4-202(2)(b), 12-43.4-202(3)(a)(IV), 12-43.4-202(3)(a)(VII), 12-43.4-202(3)(a)(VIII), 12-43.4-202(3)(a)(IX), 12-43.4-202(3)(a)(X), 12-43.4-202(3)(a)(XI), 12-43.4-202(3)(a)(XII), 12-43.4-202(3)(b)(III), 12-43.4-202(3)(b)(IV), 12-43.4-202(3)(b)(V), 12-43.4-202(3)(b)(VI), 12-43.4-202(3)(c)(VII), 12-43.4-202(3)(c)(VIII), 12-43.4-402(4), 12-43.4-403(5), 12-43.4-404(3), and 12-43.4-404(6), C.R.S. Authority also exists in the Colorado Constitution at Article XVIII, Subsection 16(5)(a)(VII). The purpose of this rule is to protect the public health and safety by establishing rules governing the quarantining of potentially contaminated product and the destruction of product that failed contaminant or potency testing for Division’s Retail Marijuana Sampling and Testing Program.

**R 1507 – Retail Marijuana Testing Program – Contaminated Product and Failed Test Results**

A. **Quarantining of Product**

1. If the Division has reasonable grounds to believe that a particular Harvest Batch, Production Batch, Inventory Tracking System package or quantity of Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product is contaminated or presents a risk to public safety, then the Division may require a Retail Marijuana Establishment to quarantine it until the completion of the Division’s investigation, which may include the receipt of any test results.
2. If a Retail Marijuana Establishment is notified by the Division or any local or state agency, or by a Retail Marijuana Testing Facility that a Sample Test Batch failed a contaminant or potency testing, then the Retail Marijuana Establishment shall quarantine any Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product from any Inventory Tracking System package, Harvest Batch or Production Batch combined into that Sample Test Batch and must follow the procedures established pursuant to paragraph B of this rule.

3. Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product that has been quarantined pursuant to this rule must be physically separated from all other inventory; and the Licensee may not Transfer or further process the Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product be sold, wholesaled, transferred or processed into a Retail Marijuana Concentrate or Retail Marijuana Product.

4. In addition to any other process authorized by law, the Division may implement the quarantine through the Inventory Tracking System by (a) indicating failed test results and (b) limiting the Licensee’s ability to Transfers, unless otherwise permitted by these rules.

B. Failed Contaminant Testing: All Contaminant Testing Except Microbial Testing of Retail Marijuana Flower or Trim and Pesticide Testing of any Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product. If a Retail Marijuana Establishment is notified by the Division or a Retail Marijuana Testing Facility that a Sample Test Batch failed contaminant testing, then for each Inventory Tracking System package, Harvest Batch or Production Batch combined into the failed Sample Test Batch the Retail Marijuana Establishment must either:

1. Destroy and document the destruction of the Inventory Tracking System package, Harvest Batch or Production Batch that it possesses, See Rule R 307 – Waste Disposal; or

2. Decontaminate the portion of the Inventory Tracking System package, Harvest Batch or Production Batch that it possesses, if possible, and create two new Test Batches, each containing the requisite number of Samples, and have those Test Batches tested for the required identified contaminant test that was failed and undergo the retesting process twice. The retesting process shall comport with the testing procedures under rule R 1504. Unless at least one of the two retest processes is conducted by the same or different Retail Marijuana Testing Facility that performed the failed test, the two retesting processes must be performed by two different Retail Marijuana Testing Facilities.

   a. If both retesting processes new Test Batches pass the required contaminant testing, then any Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product from any Inventory Tracking System package, Harvest Batch or Production Batch included in that Sample Test Batch taken may be sold, wholesaled, transferred or processed into a Retail Marijuana Concentrate or Retail Marijuana Product.

   b. If one or both of the testing processes Test Batches do not pass contaminant testing, then the Retail Marijuana Establishment must destroy and document the destruction of the entire portion of the Inventory Tracking System package, Harvest Batch or Production Batch included in that Sample Test Batch that it possesses. See Rule R 307 – Waste Disposal.

B.1. Failed Contaminant Testing: Microbial Testing of Retail Marijuana Flower or Trim. If a Retail Marijuana Cultivation Facility is notified by the Division or a Retail Marijuana Testing Facility that...
a Sample Test Batch of Retail Marijuana flower or trim failed microbial testing, then for each package or Harvest Batch combined into that Test Batch, each Inventory Tracking System package or Harvest Batch associated with the failed in that Sample, the Retail Marijuana Cultivation Facility must either:

1. Destroy and document the destruction of the Inventory Tracking System package or Harvest Batch, See Rule R 307 – Waste Disposal; or

2. Decontaminate the Retail Marijuana flower or trim in the Inventory Tracking System package or Harvest Batch, if possible, and undergo the retesting process twice. The retesting process shall comport with the testing procedures under rule R 1504. Unless at least one of the two retesting processes is conducted by the same Retail Marijuana Testing Facility that performed the failed test, the two retesting processes must be performed by two different Retail Marijuana Testing Facilities.

a. If both testing processes pass the required contaminant testing, then the Retail Marijuana flower or trim included in the Inventory Tracking System package or Harvest Batch may be sold, wholesaled, transferred or processed into a Retail Marijuana Concentrate or Retail Marijuana Product.

b. If one or both of the testing processes do not pass contaminant testing, then the Retail Marijuana Establishment must destroy and document the destruction of the entire portion of the Retail Marijuana flower or trim in the Inventory Tracking System package or Harvest Batch or transfer all Retail Marijuana flower or trim from that Inventory Tracking System package or Harvest Batch for processing into a Solvent-Based Concentrate pursuant to Rule B.1(b) below. See also Rule R 307 – Waste Disposal; or

23. Prior to any decontamination by the Retail Marijuana Cultivation Facility, the Retail Marijuana Cultivation Facility may transfer all Inventory Tracking System packages or Harvest Batches associated with the failed Sample Test Batch to a Retail Marijuana Products Manufacturing Facility for decontamination and/or Remediation processing the particular Retail Marijuana into a Solvent-Based Retail Marijuana Concentrate;

a. Decontamination. Only if the Retail Marijuana Cultivation Facility has not already attempted to decontaminate the Retail Marijuana flower or trim, the Retail Marijuana Products Manufacturing Facility may decontaminate the Retail Marijuana flower or trim, if possible, and undergo the retesting process twice for all contaminants pursuant to rule R 1501. The retesting process shall comport with the testing procedures under rule R 1504. Unless at least one of the two retesting processes is conducted by the same Retail Marijuana Testing Facility that performed the failed test, the two retesting processes must be performed by two different Retail Marijuana Testing Facilities.

i. If both retesting processes pass the required contaminant testing, then the Retail Marijuana flower or trim in the Inventory Tracking System package or Harvest Batch may be sold, wholesaled, transferred or processed into a Retail Marijuana Concentrate or Retail Marijuana Product.

ii. If one or both of the retesting processes do not pass contaminant testing, then the Retail Marijuana Products Manufacturing Facility must destroy and document the destruction of the entire portion of the Retail Marijuana flower or trim in the Inventory Tracking System package or Harvest
Batch or transfer all Retail Marijuana flower or trim from in the Inventory Tracking System package or Harvest Batch for processing into a Solvent-Based Concentrate pursuant to Rule B.1(3)(b) below. See also Rule R 307 – Waste Disposal; or

b. Remediation: Solvent-Based Retail Marijuana Concentrate Production.

i. For Remediation, the Retail Marijuana Manufacturing Facility shall process all Solvent-Based Retail Marijuana Concentrate shall be manufactured entirely from the Retail Marijuana flower or trim from the Inventory Tracking System package or Harvest Batch that failed microbial testing into a Solvent-Based Marijuana Concentrate. No other Retail Marijuana shall be included in the Solvent-Based Retail Marijuana Concentrate manufactured pursuant to subparagraph (B.1)(3) of this rule R 1507.

ii. The Solvent-Based Retail Marijuana Concentrate that was manufactured out of the Retail Marijuana flower or trim from the Inventory Tracking System package or Harvest Batch that failed microbial testing shall then undergo all required testing for contaminants pursuant to rule R 1501(C) – Retail Marijuana Testing Program – Contaminant Testing, for potency; pursuant to rule R 1503 – Retail Marijuana Testing Program – Potency Testing; and any other testing required or allowed by the Retail Marijuana Rules or Retail Marijuana Code. Such testing must comport with the testing procedures under rule R 1504.

iii. If the Solvent-Based Retail Marijuana Concentrate that was manufactured out of the Retail Marijuana flower or trim from the Inventory Tracking System package or Harvest Batch that failed microbial testing fails contaminant testing, the Retail Marijuana Cultivation Facility shall destroy and document the destruction of the entire portion of the Production Batch(es) associated with the Solvent-Based Retail Marijuana Concentrate that failed contaminant testing, See Rule R 307 – Waste Disposal.

43. Nothing in this rule removes or alters the responsibility of the Retail Marijuana Cultivation Facility transferring the Retail Marijuana that failed microbial testing from complying with the requirement to pay excise tax pursuant to rule R 502(E).

B.2. Failed Contaminant Testing: Pesticide Testing. If a Retail Marijuana Establishment is notified by the Division or a Retail Marijuana Testing Facility that a Sample failed Pesticide testing, then for each Inventory Tracking System package, Harvest Batch or Production Batch associated with that Sample the Retail Marijuana Establishment must either:

1. Destroy and document the destruction of the Inventory Tracking System package, Harvest Batch or Production Batch, See Rule R 307 – Waste Disposal; or

2. Undergo the Pesticide retesting process twice. The Pesticide retesting process shall comport with the testing procedures under rule R 1504. Unless at least one of the two retesting processes is conducted by the same Retail Marijuana Testing Facility that performed the failed test, the two retesting processes must be performed by two different Retail Marijuana Testing Facilities.
a. If both retesting processes pass the required Pesticide testing, then any Retail Marijuana, Retail Marijuana Concentrate or Retail Marijuana Product from the Inventory Tracking System package, Harvest Batch or Production Batch may be sold, wholesaled, transferred or processed into a Retail Marijuana Concentrate or Retail Marijuana Product.

b. If one or both of the retesting processes do not pass contaminant testing, then the Retail Marijuana Establishment must destroy and document the destruction of the Inventory Tracking System package, Harvest Batch or Production Batch. See Rule R 307 – Waste Disposal.

C. Failed Potency Testing. If a Retail Marijuana Establishment is notified by the Division or a Retail Marijuana Testing Facility that a Sample Test Batch of Retail Marijuana Product failed potency testing, then for the Inventory Tracking System package or Production Batch associated with the from which that Sample Test Batch was produced the Retail Marijuana Establishment must either:

1. Destroy and document the destruction of the entire portion of the Inventory Tracking System package or Production Batch that it possesses, See Rule R 307 – Waste Disposal; or

2. Attempt corrective measures, if possible, and undergo the potency retesting process twice. The retesting process shall comport with the testing procedures under rule R 1504. Unless at least one of the two retesting processes is conducted by the same Retail Marijuana Testing Facility that performed the failed test, the two retesting processes must be performed by two different Retail Marijuana Testing Facilities create two new Sample Test Batches and have those Sample Test Batches tested for potency by the same or different Retail Marijuana Testing Facility.

a. If both retesting processes new Test Batches pass potency testing, then any Retail Marijuana Concentrate or Retail Marijuana Product from the Inventory Tracking System package or Production Batch included in the Test Batch may be sold, wholesaled or transferred.

b. If one or both of the retesting processes results in failed Test Batches fail potency testing, then the Retail Marijuana Products Manufacturing Facility must destroy and document the destruction of the entire portion of the Inventory Tracking System package or Production Batch that it possesses. See Rule R 307 – Waste Disposal.

D. Violation Affecting Public Safety. Failure to comply with this rule may constitute a license violation affecting public safety.