

**BUREAU OF CANNABIS CONTROL
PROPOSED TEXT OF REGULATIONS**

**CALIFORNIA CODE OF REGULATIONS
TITLE 16
DIVISION 42. BUREAU OF CANNABIS CONTROL**

All of the proposed text sections and documents incorporated by reference are proposed to be added to the California Code of Regulations under Division 42 of Title 16:

Chapter 1. ALL BUREAU LICENSEES

Article 1. Division Definitions

§ 5000. Definitions

For the purposes of this division, the definitions in this section shall govern the construction of this division unless otherwise indicated.

- (a) “Act” means the Medicinal and Adult-Use Cannabis Regulation and Safety Act.
- (b) “Bureau” means the Bureau of Cannabis Control, previously named the Bureau of Marijuana Control, Bureau of Medical Cannabis Regulation, and Bureau of Medical Marijuana Regulation.
- (c) “Cannabis accessories” has the same meaning as in Health and Safety Code section 11018.2.
- (d) “Cannabis goods” means cannabis, including dried flower, and products containing cannabis.
- (e) “Cannabis waste” means waste that is not hazardous waste, as defined in Public Resources Code section 40141, and is organic waste, as defined in Public Resources Code section 42649.8 (c), that contains cannabis and that has been made unusable and unrecognizable in the manner prescribed in sections 5054 and 5055 of this division.
- (f) “Canopy” means the designated area(s) at a licensed premises that will contain mature plants at any point in time.
- (g) “Delivery employee” means an individual employed by a licensed retailer or licensed microbusiness who delivers cannabis goods from the licensed retailer or licensed microbusiness premises to a customer at a physical address.
- (h) “Free cannabis goods” means any amount of cannabis goods provided to any person without cost or payment or exchange of any other thing of value.
- (i) “Kief” means the resinous trichomes of cannabis that have been separated from the cannabis plant.
- (j) “Limited-access area” means an area in which cannabis goods are stored or held and is only accessible to a licensee and its employees and contractors.

(k) “Lot number” or “batch number” means a distinctive group of numbers, letters, or symbols or any combination of these that is unique to a group of cannabis goods.

(l) “Medicinal cannabis patient” includes both a qualified patient as defined in Health and Safety Code section 11362.7 and, a person in possession of a valid identification card issued under Health and Safety Code section 11362.71.

(m) “Nonvolatile solvent” means any solvent used in the extraction process that is not a volatile solvent. For purposes of this division, a nonvolatile solvent includes carbon dioxide (CO₂) used for extraction and ethanol used for extraction or post-extraction processing.

(n) “Package” and “Packaging” means any container or wrapper that may be used for enclosing or containing any cannabis goods for final retail sale. “Package” and “packaging” does not include a shipping container or outer wrapping used solely for the transport of cannabis goods in bulk quantity to a licensee.

(o) “Pre-roll” means any combination of the following rolled in paper: flower, shake, leaf, or kief that is obtained from accumulation in containers or sifted from loose, dry cannabis flower or leaf with a mesh screen or sieve.

(p) “Publicly owned land” means any building or real property that is owned by a city, county, state, federal, or other government entity.

(q) “Residential area” is an area that is within 600 feet of any single-family or multifamily residence, other than commercial hotels, motels, and similar establishments for temporary lodging.

(r) “Retail area” means a building, room, or other area that is open to the public, upon the licensed retailer or licensed microbusiness premises in which cannabis goods are sold or displayed.

(s) “Sublet” means to lease or rent all or part of a leased or rented property.

(t) “Transport” means the physical movement of cannabis goods from one licensed premises to another licensed premises.

(u) “Vehicle alarm system” is a device or series of devices installed to discourage theft of the vehicle or its contents and is intended to summon general attention or to summon law enforcement as a result of an indication of an attempted breach of the vehicle.

Authority: Section 26013, Business and Professions Code. Reference: Section 26013, Business and Professions Code.

Article 2. Applications

§ 5001. Temporary License Application Requirements

(a) Temporary license applications may be completed and submitted online at www.bcc.ca.gov or completed in hard copy and submitted by delivering a printed copy to the Bureau’s office(s).

(b) Applicants who submit their applications online shall first register for a user account. To register for a user account, the applicant shall do all of the following:

- (1) Create a user name, password, and security question and answer;
- (2) Provide an email address; and
- (3) Provide the owner's first and last name, primary phone number, social security number or individual taxpayer identification number, date of birth, and mailing address.

(c) An application must be completed by an owner as defined by section 5003 of this division. An application must be submitted to the Bureau for each temporary license applied for. An application for a temporary license includes:

- (1) The legal business name of the applicant.
- (2) The email address of the applicant's business and the telephone number for the premises.
- (3) The business' federal employer identification number.
- (4) A description of the business organizational structure of the applicant, such as partnership or corporation.
- (5) The commercial cannabis license that the applicant is applying for, and whether the applicant is requesting that the license be designated as medicinal, adult-use, or both. Testing laboratory applicants do not have to designate medicinal or adult-use, as testing laboratory licenses allow the holder to test both medicinal and adult-use cannabis.
- (6) The contact information for the applicant's designated primary contact person including the name, title, phone number, and email address of the individual.
- (7) For each owner who meets the criteria of Business and Professions Code section 26001(al), the owner's name, title, percentage of ownership, mailing address, telephone number, and email address if applicable.
- (8) The physical address of the premises to be licensed.
- (9) Evidence that the applicant has the legal right to occupy and use the proposed location that complies with section 5007 of this division.
- (10) A premises diagram pursuant to section 5006 of this division.
- (11) A copy of a valid license, permit, or other authorization issued by a local jurisdiction, that enables the applicant to conduct commercial cannabis activity at the location requested for the temporary license. For purposes of this section, "other authorization" shall include, at a minimum, a written statement or reference that clearly indicates the local jurisdiction intended to grant permission for the commercial cannabis activity or to the person to conduct commercial cannabis activity at the premises. Upon receipt of the application, the Bureau shall contact the

applicable local jurisdiction to confirm the validity of the authorization. If the local jurisdiction does not respond within 10 calendar days, the Bureau shall consider the authorization valid.

(12) Attestation to the following statement: Under penalty of perjury, I hereby declare that the information contained within and submitted with the application is complete, true, and accurate. I understand that a misrepresentation of fact is cause for rejection of this application, denial of the license, or revocation of a license issued.

(d) A temporary license is a conditional license that authorizes the licensee to engage in commercial cannabis activity as would be permitted under the privileges of a non-temporary license of the same type. A temporary licensee shall follow all applicable rules and regulations as would be required if the licensee held a non-temporary license of the same type.

(e) A temporary license does not obligate the Bureau to issue a non-temporary license nor does the temporary license create a vested right in the holder to either an extension of the temporary license or to the granting of a subsequent non-temporary license.

(f) A temporary license issued under this section shall be valid for 120 days from the effective date. No temporary license shall be effective prior to January 1, 2018.

(g) A temporary license may be extended by the Bureau for additional 90-day periods if a complete application for an annual license has been submitted to the Bureau pursuant to section 5002 of this division prior to the initial expiration date of the temporary license.

(h) The Bureau shall not issue any temporary licenses or extensions after December 31, 2018. Any temporary license issued or extended with an expiration date after December 31, 2018 will be valid until it expires, but shall not be extended beyond the expiration date.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012 and 26050.1, Business and Professions Code.

§ 5002. Annual License Application Requirements

(a) Applications may be completed and submitted online at www.bcc.ca.gov or completed in hard copy and submitted by delivering a printed copy to the Bureau's office(s).

(b) Applicants who submit their applications online shall first register for a user account. To register for a user account, the applicant shall do all of the following:

(1) Create a user name, password, and security question and answer;

(2) Provide an email address; and

(3) Provide the owner's first and last name, primary phone number, social security number or individual taxpayer identification number, date of birth, and mailing address.

(c) An application must be completed by an owner as defined by section 5003 of this division. An application must be submitted to the Bureau for each location and each license type. An application for an annual cannabis license includes the following:

- (1) The name of the applicant. For applicants who are individuals, the applicant shall provide both the first and last name of the individual. For applicants who are business entities, the applicant shall provide the legal business name of the applicant.
- (2) If applicable, the business trade name (“DBA”) of the applicant.
- (3) The commercial cannabis license that the applicant is applying for, and whether the applicant is requesting that the license be designated as medicinal, adult-use, or both. Testing laboratory applicants do not have to designate medicinal or adult-use, as testing laboratory licenses allow the holder to test both medicinal and adult-use cannabis.
- (4) Payment of an application fee pursuant to section 5014 of this division.
- (5) Whether the owner is serving or has previously served in the military. Disclosure of military service is voluntary. An applicant who has served as an active duty member of the Armed Forces of the United States and was honorably discharged and who can provide evidence of such honorable discharge shall have his or her application expedited pursuant to Business and Professions Code section 115.4.
- (6) A list of the license types and the license numbers issued from the Bureau and all other state cannabis licensing authorities that the applicant holds, including the date the license was issued and the licensing authority that issued the license.
- (7) Whether the applicant has been denied a license or has had a license suspended or revoked by the Bureau or any other state cannabis licensing authority. The applicant shall provide the type of license applied for, the name of the licensing authority that denied the application, and the date of denial.
- (8) The physical address of the premises. If the Bureau is unable to confirm that the address provided is valid, then the applicant shall provide a document that confirms the physical address of the premises. Such a document may include a utility bill, printed information from the county assessor, deed, or title.
- (9) The mailing address for the applicant, if different from the premises address.
- (10) The telephone number for the premises.
- (11) The website address and email address of the applicant’s business.
- (12) The business’ federal employer identification number.
- (13) Contact information for the applicant’s designated primary contact person including the name, title, phone number, and email address of the individual.
- (14) A description of the business organizational structure of the applicant, such as partnership or corporation.
- (15) The business-formation documents, which may include, but are not limited to, articles of incorporation, operating agreements, partnership agreements, and fictitious business name statements. The applicant shall also provide all documents filed with the California Secretary of

State, which may include, but are not limited to, articles of incorporation, certificates of stock, articles of organization, certificates of limited partnership, and statements of partnership authority. If the commercial cannabis business is held in trust, the applicant shall provide a copy of the trust.

(16) A list of every fictitious business name the applicant is operating under including the address where the business is located.

(17) A commercial cannabis business that is a foreign corporation shall include in its application the certificate of qualification issued by the Secretary of State of California.

(18) The applicant shall supply the following financial information:

(A) A list of funds belonging to the applicant held in savings, checking, or other accounts maintained by a financial institution. The applicant shall provide, for each account, the financial institution's name, the financial institution's address, account type, account number, and the amount of money in the account.

(B) A list of loans made to the applicant. For each loan, the applicant shall provide the amount of the loan, the date of the loan, term(s) of the loan, security provided for the loan, and the name, address, and phone number of the lender.

(C) A list of investments made into the applicant's commercial cannabis business. For each investment, the applicant shall provide the amount of the investment, the date of the investment, term(s) of the investment, and the name, address, and phone number of the investor.

(D) A list of all gifts of any kind given to the applicant for its use in conducting commercial cannabis activity. For each gift, the applicant shall provide the value of the gift or description of the gift, and the name, address, and phone number of the provider of the gift.

(19) A complete list of every individual who has a financial interest in the commercial cannabis business as defined in section 5004 of this division, who is not an owner as defined in section 5003(b) of this division.

(20) A complete list of every owner of the applicant as defined in section 5003(b) of this division. Each individual named on this list shall submit the following information:

(A) The full name of the owner.

(B) The owner's title within the applicant entity.

(C) The owner's date of birth and place of birth.

(D) The owner's social security number or individual taxpayer identification number.

(E) The owner's mailing address.

(F) The owner's telephone number. This may include a number for the owner's home, business, or mobile telephone.

(G) The owner's email address.

(H) The owner's current employer.

(I) The percentage of the ownership interest held in the applicant entity by the owner.

(J) Whether the owner has an ownership or a financial interest as defined in sections 5003 and 5004, respectively, of this division in any other commercial cannabis business licensed under the Act.

(K) A copy of the owner's government-issued identification. Acceptable forms of identification are a document issued by a federal, state, county, or municipal government that includes the name, date of birth, height, gender, and picture of the person, such as a driver license.

(L) A detailed description of the owner's convictions. A conviction within the meaning of this section means a plea or verdict of guilty or a conviction following a plea of nolo contendere. Convictions dismissed under Penal Code section 1203.4 or equivalent non-California law must be disclosed. Convictions dismissed under Health and Safety Code section 11361.8 or equivalent non-California law must be disclosed. Juvenile adjudications and traffic infractions under \$300 that did not involve alcohol, dangerous drugs, or controlled substances do not need to be included. For each conviction, the owner shall provide the following:

(i) The date of conviction.

(ii) Dates of incarceration, if applicable.

(iii) Dates of probation, if applicable.

(iv) Dates of parole, if applicable.

(v) A detailed description of the offense for which the owner was convicted.

(vi) A statement of rehabilitation for each conviction. The statement of rehabilitation is to be written by the owner and may contain evidence that the owner would like the Bureau to consider that demonstrates the owner's fitness for licensure. Supporting evidence may be attached to the statement of rehabilitation and may include, but is not limited to, a certificate of rehabilitation under Penal Code section 4852.01, and dated letters of reference from employers, instructors, or professional counselors that contain valid contact information for the individual providing the reference.

(M) If applicable, a detailed description of any administrative orders or civil judgements for violations of labor standards, any suspension of a commercial cannabis license, revocation of a commercial cannabis license, or sanctions for unlicensed commercial cannabis activity by a licensing authority, local agency, or state agency against the applicant or a business entity in which the applicant was an owner or officer within the three years immediately preceding the date of the application.

(N) Attestation to the following statement: Under penalty of perjury, I hereby declare that the information contained within and submitted with the application is complete, true, and accurate. I

understand that a misrepresentation of fact is cause for rejection of this application, denial of the license, or revocation of a license issued.

(21) Evidence that the applicant has the legal right to occupy and use the proposed location that complies with section 5007 of this division.

(22) Evidence that the proposed premises is in compliance with Business and Professions Code section 26054(b) and section 5026 of this division.

(23) For an applicant with 20 or more employees, the applicant shall attest that the applicant has entered into a labor peace agreement and will abide by the terms of the agreement. The applicant shall submit a copy of the page of the labor peace agreement that contains the signatures of the union representative and the applicant. For applicants who have not yet entered into a labor peace agreement, the applicant shall provide a notarized statement indicating that the applicant will enter into and abide by the terms of a labor peace agreement as soon as reasonably practicable after licensure.

(24) The applicant shall provide a valid seller's permit number issued by the California Department of Tax and Fee Administration, if applicable. If the applicant has not yet received a seller's permit, the applicant shall attest that the applicant is currently applying for a seller's permit.

(25) A diagram of the premises as required by section 5006 of this division.

(26) Proof of a bond as required by section 5008 of this division.

(27) For testing laboratory applications, the certificate(s) of accreditation as required by section 5702 of this division, or the information required for a provisional license as required by section 5703 of this division.

(28) When an applicant provides a license, permit, or other authorization from the local jurisdiction where the licensed premises will be or is located, the Bureau will notify the applicable local jurisdiction to confirm the validity of the authorization. If the local jurisdiction does not respond within 10 calendar days, the Bureau shall consider the authorization valid.

(29) All licensee applications shall include a detailed description of the applicant's operating procedures. Applicants shall use and submit to the Bureau the following forms which are incorporated by reference:

(A) Transportation Procedures, Form BCC-LIC-015 (New 7/18)

(B) Inventory Procedures, Form BCC-LIC-016 (New 7/18)

(C) Non-Laboratory Quality Control Procedures, Form BCC-LIC-017 (New 7/18)

(D) Security Procedures, Form BCC-LIC-018 (New 7/18)

(E) Cannabis Waste Management Procedures, Form BCC-LIC-019 (New 7/18)

(F) Delivery Procedures, Form BCC-LIC-020 (New 7/18)

(30) For applicants applying for a microbusiness license, the application shall include a detailed description of the applicant's operating procedures required by this section for each cannabis activity the applicant intends to engage in.

(31) For applicants applying for a testing laboratory license, in addition to the operating procedures required under subsection (c)(29) of this section, the standard application shall include the operating procedures required by chapter 6 of this division.

(32) The limited waiver of sovereign immunity required by section 5009 of this division, if applicable.

(33) Evidence of exemption from, or compliance with, the California Environmental Quality Act as required by section 5010 of this division.

Authority: Sections 115.4 and 26013, Business and Professions Code. Reference: Sections 115.4, 144, 26012, 26050, 26051.5, and 26055, Business and Professions Code.

§ 5003. Designation of Owner

(a) All applicants for a commercial cannabis license shall have at a minimum one individual who meets the definition of "owner" under Business and Professions Code section 26001(al) and who will submit the information required of owners under section 5002.

(b) "Owner" means any of the following:

(1) A person with an aggregate ownership interest of 20 percent or more in the person applying for a license or a licensee, unless the interest is solely a security, lien, or encumbrance.

(2) The chief executive officer of a nonprofit or other entity.

(3) A member of the board of directors of a nonprofit.

(4) The trustee(s) and all persons that have control of the trust and/or the commercial cannabis business that is held in trust.

(5) An individual who will be participating in the direction, control, or management of the person applying for a license. Such an individual includes any of the following:

(A) A general partner of a commercial cannabis business that is organized as a partnership.

(B) A non-member manager or managing member of a commercial cannabis business that is organized as a limited liability company.

(C) An officer or director of a commercial cannabis business that is organized as a corporation.

(D) Any individual who assumes responsibility for the license.

(c) When an entity has an aggregate ownership interest of 20 percent or more in the commercial cannabis business, then the chief executive officer and/or members of the board of directors of the entity shall be considered owners.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26001, and 26012, Business and Professions Code.

§ 5004. Financial Interest in a Commercial Cannabis Business

(a) A financial interest means an agreement to receive a portion of the profits of a commercial cannabis business, an investment into a commercial cannabis business, a loan provided to a commercial cannabis business, or any other equity interest in a commercial cannabis business except as provided in subsection (c). For the purpose of this section, an interest in a diversified mutual fund, blind trust, or similar instrument is not a financial interest.

(b) The license application shall include the name, birthdate, and government-issued identification type and number for all individuals who have a financial interest in a commercial cannabis business but are not owners as defined in section 5003(b) of this division. These individuals shall not be required to submit the information required of owners under section 5002(c)(20) of this division.

(c) Notwithstanding subsection (b), the following persons are not required to be listed on an application for licensure under section 5002(c)(19) of this division:

- (1) A bank or financial institution whose interest constitutes a loan;
- (2) Persons whose only financial interest in the commercial cannabis business is through an interest in a diversified mutual fund, blind trust, or similar instrument;
- (3) Persons whose only financial interest is a security interest, lien, or encumbrance on property that will be used by the commercial cannabis business; and
- (4) Persons who hold a share of stock that is less than 5 percent of the total shares in a publicly traded company.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012 and 26051.5, Business and Professions Code.

§ 5005. Personnel Prohibited from Holding Licenses

(a) A license authorized by the Act and issued by the Bureau may not be held by, or issued to, any person holding office in, or employed by, any agency of the State of California or any of its political subdivisions when the duties of such person have to do with the enforcement of the Act or any other penal provisions of law of this State prohibiting or regulating the sale, use, possession, transportation, distribution, testing, manufacturing, or cultivation of cannabis goods.

(b) This section applies to, but is not limited to, any person employed in the State of California Department of Justice as a peace officer, in any district attorney's office, in any city attorney's office, in any sheriff's office, or in any local police department.

(c) No person listed in subsection (a) or (b) of this section may have any ownership interest, directly or indirectly, in any business to be operated or conducted under a cannabis license.

(d) This section does not apply to any person who holds a license in the capacity of executor, administrator, or guardian.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012, Business and Professions Code.

§ 5006. Premises Diagram

(a) An applicant shall submit to the Bureau, with the application, a complete and detailed diagram of the proposed premises. The diagram shall be used by the Bureau to determine whether the premises meets the requirements under this division and the Act. The Bureau shall deny an application if the premises does not qualify for licensure pursuant to Business and Professions Code section 26057.

(b) The diagram shall show the boundaries of the property and the proposed premises to be licensed, showing all boundaries, dimensions, entrances and exits, interior partitions, walls, rooms, windows, and doorways, and shall include a brief statement or description of the principal activity to be conducted therein.

(c) The diagram shall show and identify commercial cannabis activities that will take place in each area of the premises, and identify limited-access areas. Commercial cannabis activities that shall be identified on the diagram include the following, if applicable to the business operations: storage, batch sampling, loading or unloading of shipments, packaging and labeling, customer sales, loading for deliveries, extraction, cultivation, and processing.

(d) The diagram shall show where all cameras are located and assign a number to each camera for identification purposes.

(e) The diagram shall be to scale.

(f) The diagram shall not contain any highlighting and the markings on the diagram shall be in black-and-white print.

(g) If the proposed premises consists of only a portion of a property, the diagram must be labeled indicating which part of the property is the proposed premises and what the remaining property is used for.

(h) If the proposed premises consists of only a portion of a property that will contain two or more licensed premises, the diagram shall clearly show the designated entrances and walls under the exclusive control of the applicant for the premises, as well as the designated entrances and walls for each additional premises. The diagram shall also show all proposed common or shared areas of the property. Such areas may include lobbies, bathrooms, hallways, and breakrooms.

(i) If the proposed premises will be a microbusiness that includes cultivation activities, in addition to the requirements of subsections (b) through (g) of this section, the premises diagram shall also include all the required information for a premises diagram under section 5501(d) of this division.

(j) If a proposed premises is located on only a portion of a property that also includes a residence, the diagram shall clearly show the designated buildings for the premises and the residence.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012 and 26051.5, Business and Professions Code.

§ 5007. Landowner Approval

(a) If the applicant is not the landowner of the real property upon which the premises is located, the applicant shall provide to the Bureau a document from the landowner or the landowner's agent that states that the applicant has the right to occupy the property and acknowledges that the applicant may use the property for the commercial cannabis activity for which the applicant is applying for licensure. An applicant shall also provide a copy of the rental agreement, as applicable.

(b) If the applicant is the landowner of the real property upon which the premises is located, the applicant shall provide to the Bureau a copy of the title or deed to the property.

(c) If the landowner is a trust, the landowner approval shall come from the person that holds equitable title in the real property.

Authority: Section 26013, Business and Professions Code. Reference: Section 26051.5, Business and Professions Code.

§ 5007.1. Electronic Signature

The Bureau will accept an electronic signature that complies with Civil Code section 1633.2(h) on any documents required to be submitted to the Bureau and that are submitted electronically, except documents that are required to be notarized.

Authority: Section 26013, Business and Professions Code. Reference: Section 26013, Business and Professions Code.

§ 5008. Bond

An applicant shall provide proof of having obtained a surety bond of at least \$5,000 payable to the State of California to ensure payment of the cost incurred for the destruction of cannabis goods necessitated by a violation of the Act or the regulations adopted thereunder. All bonds required under this regulation must be issued by a corporate surety licensed to transact surety business in the State of California and shall be issued on the Commercial Cannabis Licensee Bond form under Title 11, California Code of Regulations, Article 56, section 118.1.

Authority: Section 26013, Business and Professions Code. Reference: Section 26051.5, Business and Professions Code.

§ 5009. Limited Waiver of Sovereign Immunity

(a) Any applicant or licensee that may fall within the scope of sovereign immunity that may be asserted by a federally recognized tribe or other sovereign entity must waive any sovereign

immunity defense that the applicant or licensee may have, may be asserted on its behalf, or may otherwise be asserted in any state administrative or judicial enforcement actions against the applicant or licensee, regardless of the form of relief sought, whether monetary or otherwise, under the state laws and regulations governing commercial cannabis activity. The applicant or licensee must submit a written waiver of sovereign immunity to the Bureau with any license application or renewal, which is valid for the period of the license. The written waiver shall include that the applicant or licensee has the lawful authority to enter into the waiver required by this section, the applicant or licensee hereby waives sovereign immunity, and the applicant or licensee agrees to do all of the following:

- (1) Provide documentation to the Bureau that establishes that the applicant or licensee has the lawful authority to enter into the waiver required by this section;
 - (2) Conduct all commercial cannabis activity in full compliance with the state laws and regulations governing commercial cannabis activity, including submission to all enforcement provisions thereof;
 - (3) Allow access as required by state statute or regulation by persons or entities charged with duties under the state laws and regulations governing commercial cannabis activity to any licensed premises or property at which the applicant conducts any commercial cannabis activity, including licensed premises or property where records of commercial cannabis activity are maintained by or for the applicant or licensee;
 - (4) Provide any and all records, reports, and other documents as may be required under the state laws and regulations governing commercial cannabis activity;
 - (5) Conduct commercial cannabis activity with other state commercial cannabis licensees only, unless otherwise specified by state law;
 - (6) Meet all of the requirements for licensure under the state laws and regulations governing the conduct of commercial cannabis activity, and provide truthful and accurate documentation and other information of the applicant's qualifications and suitability for licensure as may be requested; and
 - (7) Submit to the personal and subject matter jurisdiction of the California courts to address any matter related to the waiver or the commercial cannabis application, license, or activity, and that all such matters and proceedings shall be governed, construed and enforced in accordance with California substantive and procedural law, including but not limited to the Medicinal and Adult-Use Regulation and Safety Act and the Administrative Procedure Act.
- (b) The Bureau shall not approve an application for a state license if approval of the license would violate the provisions of any local ordinance or regulation adopted in accordance with Business and Professions Code section 26200 that is issued by the county or, if within a city, the city, within which the licensed premises is to be located.
- (c) Any applicant or licensee must immediately notify the Bureau of any changes that may materially affect the applicant or licensee's compliance with subsection (a) of this section.

(d) Any failure by an applicant or licensee to comply with the requirements of subsections (b) or (c) of this section shall be a basis for denial of an application or renewal or discipline of a licensee.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26050 and 26051.5, Business and Professions Code.

§ 5010. Compliance with the California Environmental Quality Act (CEQA)

(a) For purposes of complying with the California Environmental Quality Act (CEQA):

(1) “Project” means the commercial cannabis activity or activities for which an annual license application is submitted to the Bureau and which requires the Bureau to engage in discretionary review.

(2) “CEQA Guidelines” means the Guidelines for Implementation of the California Environmental Quality Act codified at Title 14, California Code of Regulations, sections 15000 et seq.

(3) “Environmental document” has the same meaning as section 15361 of the CEQA Guidelines. Environmental documents are prepared by the applicant or the local jurisdiction that analyze the commercial cannabis activity or activities and which assess whether the project has the potential to generate significant adverse environmental impacts.

(b) An applicant may provide evidence of compliance with CEQA by submitting a copy of an environmental document previously certified or adopted by the local jurisdiction that evaluated the project.

(c) If a previously certified or adopted environmental document is not available or does not exist, and if the Bureau does not determine that the project is exempt from CEQA as provided in section 5010.2 of this division, the applicant shall provide information to enable the Bureau to determine what type of environmental document should be prepared. Such information shall include at least the following:

(1) The project location and surrounding land use, which shall:

(A) Describe the project location including street address, city, county, Assessor’s Parcel Number, major cross streets, general plan designation, zoning designation, and any other physical description that clearly indicates the project site location;

(B) Describe the surrounding land uses and zoning designations within one-half mile radius of the project and list of all abutting land uses.

(C) Include a vicinity map and aerial image to show the project location;

(D) Include photographs, not larger than 8 ½ by 11 inches, of the of existing visual conditions as observed from the publicly accessible vantage point(s);

(2) A project description, which shall:

- (A) Describe the activities included in the project application and identify any other commercial cannabis activity or activities occurring at the proposed premises;
- (B) Quantify the project size (total floor area of the project) in square feet and the lot size on which the project is located, in square feet;
- (C) List and describe any other related public agency permits and approvals, including any entitlements, required for this project, including those required by a planning commission, local air district, or regional water board;
- (D) Identify whether the applicant is licensed by, or has applied for licensure from, the California Department of Food and Agriculture or the State Department of Public Health to engage in commercial cannabis activity at the proposed premises;
- (E) Estimate the number of anticipated employees onsite, occupancy during operating hours, frequency of deliveries or shipments originating from and/or arriving to the project site, describe the anticipated transportation activity at the project site including the effects of the project related to public transit, bicycle, or pedestrian facilities;
- (F) Identify the location, type, and quantity of hazardous materials, as defined by Health and Safety Code section 25260, that are stored, used, or disposed of at the project site and a copy of the Hazardous Material Business Plan (HMBP) prepared for the proposed premises, if any;
- (G) Discuss whether the project will increase the quantity and type of solid waste, as defined by Public Resources Code section 40191, or hazardous waste, as defined by Health and Safety Code section 25117, that is generated or stored onsite.
- (H) Describe the project's anticipated operational energy needs, identify the source of energy supplied for the project and the anticipated amount of energy per day, and explain whether the project will require an increase in energy demand and the need for additional energy resources.
- (3) The Bureau shall consider, for purposes of evaluating compliance with the CEQA, both the individual and cumulative impacts of all commercial cannabis activities occurring at the proposed premises.

Authority: Section 26013, Business and Professions Code. Reference: Section 26055, Business and Professions Code.

§ 5010.1. Review of Previously Prepared Environmental Documents Pursuant to CEQA

- (a) When the project has been evaluated in a previously certified or adopted environmental document, the Bureau will evaluate the project as a responsible agency as provided in section 15096 of the CEQA Guidelines.
- (b) The Bureau may require subsequent environmental review if one or more of the events outlined in Public Resources Code section 21166 or section 15162 of the CEQA Guidelines occurs.

Authority: Section 26013, Business and Professions Code. Reference: Section 26055, Business and Professions Code; Section 21166, Public Resources Code.

§5010.2 CEQA Exempt Projects.

(a) An applicant may submit documentation to the Bureau demonstrating that the project is exempt from further environmental review pursuant to CEQA because the project falls within a class of projects determined not to have significant effect on the environment.

(b) Documentation submitted to the Bureau in support of a determination that the project is exempt from further environmental review under CEQA shall, at minimum, include the following information:

(1) Project location and surrounding land use, as required in section 5010 of this division;

(2) Project description as required in section 5010 of this division; and

(3) A written justification to support a determination that the project is categorically exempt. The written justification shall list the category and class the exemption falls under and shall explain how the project fits the specified exemption. The justification shall also demonstrate that none of the exceptions to categorical exemptions described in section 15300.2 of the CEQA Guidelines apply to the project.

(c) Upon review, if the Bureau determines that the project is exempt from further CEQA review, and approves an application for annual licensure, the Bureau will file a Notice of Exemption with the State Clearinghouse within five working days after approval of the project as required by section 15062(c) of the CEQA Guidelines.

Authority: Section 26013, Business and Professions Code. Reference: Section 26055, Business and Professions Code.

§5010.3 Preparation of CEQA Environmental Documents by Applicant

If the Bureau determines that a project does not qualify for an exemption, or that the circumstances described in Public Resources Code section 21166 and 15162 of the CEQA Guidelines require subsequent environmental review, the Bureau may charge the applicant for the costs of preparation for any supplemental environmental document as well as the Bureau's costs for procedures to comply with CEQA, unless the Bureau specifies otherwise.

Authority: Section 26013, Business and Professions Code. Reference: Section 26055, Business and Professions Code.

§ 5011. Additional Information

The Bureau may request additional information and documents from the applicant. The Bureau will provide the applicant a deadline for submittal of additional information. The Bureau will consider the complexity of the information requested and the ease with which the information can be obtained and transmitted to the Bureau by the applicant in determining the deadline.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26031, 26050 and 26051.5, Business and Professions Code.

§ 5012. Incomplete Applications

(a) If the Bureau determines that the application is incomplete, the Bureau may provide notice to the applicant in accordance with Business and Professions Code section 124.

(b) If the Bureau issues a notice pursuant to Business and Professions Code section 124, an applicant has one year from the date of the notice in subsection (a) of this section to correct all deficiencies. If the applicant fails to correct the deficiencies within the one-year period and has not responded to the Bureau's attempts to contact the applicant, the application shall be considered abandoned under Business and Professions Code section 142.

(c) An applicant may reapply at any time following an abandoned application.

(d) The Bureau will not refund application fees for an incomplete or abandoned application.

Authority: Section 26013, Business and Professions Code. Reference: Sections 124, 142, 26050 and 26051.5, Business and Professions Code.

§ 5013. Withdrawal of Application

(a) An applicant may withdraw an application at any time prior to the Bureau's issuance of a license or denial of a license.

(b) Requests to withdraw an application must be submitted to the Bureau in writing, dated, and signed by the applicant.

(c) In accordance with Business and Professions Code section 118, withdrawal of an application shall not, unless the Bureau has consented in writing to such withdrawal, deprive the Bureau of its authority to institute or continue a proceeding against the applicant for the denial of the license upon any ground provided by law or to enter an order denying the license upon any such ground.

(d) The Bureau will not refund application fees for a withdrawn application.

(e) An applicant may reapply at any time following the withdrawal of an application and will be required to submit a new application and fee.

Authority: Section 26013, Business and Professions Code. Reference: Sections 118 and 26050, Business and Professions Code.

Article 3. Licensing

§ 5014. Fees

(a) The application fee for an annual license under section 5002 of this division, a cannabis event organizer license under section 5600 of this division, a temporary cannabis event license under section 5601 of this division for each event, and physical modification of the premises under section 5027 of this division shall be paid by an applicant or licensee as provided by this division. Applicants and licensees shall pay the appropriate fee as outlined in this section.

Application Fee Schedule

License Type	Fee Per Application
All Annual Licenses	\$ 1,000
Cannabis Event Organizer License	\$ 1,000
Temporary Cannabis Event License	\$ 1,000
Physical Modification of Premises	\$ 500

(b) The annual licensing fee for each license shall be paid by an applicant or licensee. After the Bureau has approved the application. The Bureau shall not issue the license until the annual licensing fee has been paid.

(c) In determining the appropriate license fee to be charged, each applicant or licensee shall estimate the maximum dollar value of its planned operation in terms of the value of the product expected to be tested, distributed, transported, retailed, cultivated and/or manufactured as determined in assessing the 15% excise tax pursuant to Revenue and Taxation Code section 34011. The applicant or licensee will use the maximum dollar value of its planned operation to determine the appropriate fee as outlined in the following fee schedule.

Annual License Fee Schedule

License Type	Operations (\$ Max. Per License)	Fee Per License
Testing Laboratory	up to 50 million	\$ 12,500
	greater than 50 million to 400 million	\$ 45,000
	greater than 400 million	\$ 90,000
Distributor	up to 3 million	\$ 1,200
	greater than 3 million to 12 million	\$ 10,000
	greater than 12 million to 60 million	\$ 50,000
	greater than 60 million to 120 million	\$100,000
	greater than 120 million	\$200,000
Distributor Transport Only Self-Distribution	up to 3 million	\$500
	greater than 3 million to 12 million	\$1,500
	greater than 12 million	\$4,000
Distributor Transport Only	up to 3 million	\$1,000
	greater than 3 million to 12 million	\$2,800

License Type	Operations (\$ Max. Per License)	Fee Per License
	greater than 12 million	\$6,000
Retailer	up to 0.75 million	\$ 4,000
	greater than 0.75 million to 2.5 million	\$ 20,000
	greater than 2.5 million to 7.5 million	\$ 64,000
	greater than 7.5 million	\$ 120,000
Microbusiness	up to 0.75 million	\$ 10,000
	greater than 0.75 million to 2.5 million	\$ 30,000
	greater than 2.5 million to 7.5 million	\$ 100,000
	greater than 7.5 million	\$ 180,000

(d) Notwithstanding the fees identified above, cannabis event organizers shall pay the appropriate fee as outlined in this section.

Annual License Fee Schedule for Cannabis Event Organizers

License Type	Planned Operations (Number of Operations)	Fee Per License
Event Organizer	1-10 events annually	\$ 5,000
	greater than 10 events annually	\$ 15,000

(e) All fees are nonrefundable.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26051.5 and 26180, Business and Professions Code.

§ 5015. Payment of Fees

(a) Any fee specified in this division shall be made to the Bureau of Cannabis Control by cash, check, money order, debit card, or credit card. Check and money order payments may be made out to the Bureau of Cannabis Control or the Department of Consumer Affairs.

(b) If the fee is paid by debit or credit card:

(1) The payment shall be made through the Bureau’s online licensing system; and

(2) The applicant or licensee may be required to pay any associated processing or convenience fees to the third-party vendor processing the payment on behalf of the Bureau.

(c) Failure to pay the appropriate licensing fee is grounds for discipline. If the Bureau determines that the licensee paid an amount less than the appropriate licensing fee under section 5014 of this division, the licensee will be required to pay the balance of the appropriate fee and a penalty fee of 50 percent of the appropriate licensing fee. The Bureau in its discretion may waive the penalty fee.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26051.5 and 26180, Business and Professions Code

§ 5016. Priority Licensing

(a) Priority licensing is available for annual licenses only, and is not applicable to any temporary or cannabis event organizer license.

(b) To be eligible for priority licensing, an applicant must be able to demonstrate that the applicant operated in compliance with the Compassionate Use Act of 1996 and its implementing laws before September 1, 2016. Eligibility for priority licensing shall be established by one of the following methods:

(1) The applicant is included on the list provided to the Bureau by the local jurisdiction in response to the Bureau's request required by Business and Professions Code section 26054.2.

(2) If the local jurisdiction does not provide a list to the Bureau or the applicant's name does not appear on the list provided to the Bureau, the applicant shall provide to the Bureau evidence of operation in compliance with the Compassionate Use Act of 1996. Such evidence shall be in the form of a document issued or signed by the applicant's local jurisdiction that contains the following:

(A) Name of the applicant;

(B) Address of the premises to be licensed;

(C) License type(s) that the applicant is applying to the Bureau for;

(D) Name of the local jurisdiction;

(E) Name of the local jurisdiction office that is responsible for enforcing compliance with the Compassionate Use Act of 1996;

(F) Name and contact information for the person authorized by the local jurisdiction to sign on its behalf;

(G) Signature of the person authorized to sign on behalf of the local jurisdiction; and

(H) A statement to the effect of: "The above-named party is currently conducting commercial cannabis activity in this jurisdiction and has been operating in compliance with the Compassionate Use Act of 1996 since before September 1, 2016."

(c) The Bureau shall not provide priority licensing pursuant to this section after December 31, 2019.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012, 26054.2, Business and Professions Code.

§ 5017. Substantially Related Offenses and Criteria for Rehabilitation

(a) For the purpose of license denial, convictions that are substantially related to the qualifications, functions, or duties of the business for which the application is made include:

- (1) A violent felony conviction, as specified in Penal Code section 667.5(c).
- (2) A serious felony conviction, as specified in Penal Code section 1192.7(c).
- (3) A felony conviction involving fraud, deceit, or embezzlement.
- (4) A felony conviction for hiring, employing, or using a minor in transporting, carrying, selling, giving away, preparing for sale, or peddling, any controlled substance to a minor; or selling, offering to sell, furnishing, offering to furnish, administering, or giving any controlled substance to a minor.
- (5) A felony conviction for drug trafficking with enhancements pursuant to Health and Safety Code section 11370.4 or 11379.8.

(b) Except as provided in subsections (a)(4) and (a)(5) of this section and notwithstanding Chapter 2 (commencing with Section 480) of Division 1.5 of the Business and Professions Code, a prior conviction, where the sentence, including any term of probation, incarceration, or supervised release, is completed, for possession of, possession for sale, sale, manufacture, transportation, or cultivation of a controlled substance is not considered substantially related, and shall not be the sole ground for denial of a license. Conviction for any controlled substance felony subsequent to licensure shall be grounds for revocation of a license or denial of the renewal of a license.

(c) When evaluating whether an applicant who has been convicted of a criminal offense that is substantially related to the qualifications, functions, or duties of the business for which the application is made should be issued a license, the Bureau shall consider the following criteria of rehabilitation:

- (1) The nature and severity of the act or offense;
- (2) Whether the person has a felony conviction based on possession or use of cannabis or cannabis products that would not be a felony if the person was convicted of the offense on the date of the person's application;
- (3) The applicant's criminal record as a whole;
- (4) Evidence of any act committed subsequent to the act or offense under consideration that could be considered grounds for denial, suspension, or revocation of a commercial cannabis activity license;
- (5) The time that has elapsed since commission of the act or offense;

- (6) The extent to which the applicant has complied with any terms of parole, probation, restitution, or any other sanctions lawfully imposed against the applicant;
- (7) If applicable, evidence of dismissal under Penal Code sections 1203.4, 1203.4a, 1203.41 or another state's similar law;
- (8) If applicable, a certificate of rehabilitation obtained under Penal Code section 4852.01 or another state's similar law; and
- (9) Other evidence of rehabilitation submitted by the applicant.

(d) If an applicant has been denied a license based on a conviction, the applicant may request a hearing pursuant to Business and Professions Code section 26058 to determine if the applicant should be issued a license.

Authority: Section 26013, Business and Professions Code. Reference: Sections 482, 26012, and 26057, Business and Professions Code.

§ 5018. Additional Grounds for Denial of a License

In addition to the reasons for denial in Business and Professions Code section 26057, a license may be denied for the following reasons:

- (a) The applicant's proposed premises does not fully comply with standards set in regulation.
- (b) The applicant's proposed or licensed premises is substantially different from the diagram of the proposed premises submitted by the applicant, in that the size, layout, location of common entryways, doorways, or passage ways, means of public entry or exit, or identification of limited-access areas within the licensed premises is not the same.
- (c) The applicant denied the Bureau access to the licensed premises.
- (d) The applicant made a material misrepresentation on the application.
- (e) The applicant did not correct the deficiencies within the application in accordance with sections 5002 and 5012 of this division.
- (f) The applicant has been denied a license, permit, or other authorization to engage in commercial cannabis activity by a state or local licensing authority.
- (g) The applicant's proposed premises is not in compliance with Division 13 (commencing with Section 21000) of the Public Resources Code.
- (h) The applicant has failed to remit taxes as required under the Revenue and Taxation Code.
- (i) The applicant may be denied a license for any violations of law related to the operations of the commercial cannabis business or for any violations of law related to licensure.

Authority: Section 26013, Business and Professions Code. Reference: Sections 480, 490, 26012, 26030 and 26050, Business and Professions Code.

§ 5019. Excessive Concentration

(a) In determining whether to grant, deny, or renew a license for a retail license or microbusiness license, the Bureau shall consider if an excessive concentration exists in the area where the licensee will operate. For the purposes of this section “excessive concentration” applies when either of the following conditions exist:

(1) The ratio of licensees to population within the census tract or census division in which the applicant premises is located exceeds the ratio of licensees to population in the county in which the applicant premises is located, unless denial of the application would unduly limit the development of the legal market so as to perpetuate the illegal market for cannabis goods.

(2) The ratio of retail licenses or microbusiness licenses to the population within the census tract, census division, or jurisdiction exceeds that allowable by local ordinance adopted under Business and Professions Code section 26200.

(b) “Population Within the Census Tract or Census Division” as used in this section means the population as determined by the most recent United States decennial or special census. Such population determination shall not operate to prevent an applicant from establishing that an increase of resident population has occurred within the census tract or census division.

(c) “Population in the County” as used in this section shall be determined by the most recent annual population estimate for California counties published by the Demographic Research Unit, State Department of Finance.

(d) Beginning July 1, 2018, the Bureau shall calculate the ratios described in subsection (a) of this section once every six months using the most current available data. The Bureau’s consideration of whether to grant, deny, or renew a license shall be based upon the most recent ratio calculated by the Bureau on the date of the Bureau’s decision.

(e) The existence of an excessive concentration shall not be considered in determining whether to grant, deny, or extend a temporary license under Business and Professions Code section 26050.1.

(f) The applicant may provide reliable evidence establishing, to the satisfaction of the Bureau, that a denial of a license would unduly limit the development of the legal market so as to perpetuate the illegal market for cannabis goods.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012 and 26051, Business and Professions Code

§ 5020. Renewal of License

(a) To timely renew a license, a completed license renewal form and annual license fee pursuant to section 5014 of this division shall be received by the Bureau from the licensee no earlier than 60 calendar days before the expiration of the license and no later than 5:00 p.m. Pacific Time on the last business day before the expiration of the license if the renewal form is submitted to the Bureau at its office(s), or no later than 11:59 p.m. on the last business day before the expiration of the license if the renewal form is submitted to the Bureau through its electronic licensing

system. Failure to receive a notice for license renewal does not relieve a licensee of the obligation to renew all licenses as required.

(b) In the event the license is not submitted for renewal prior to the expiration date, the licensee must not sell, transfer, transport, manufacture, test, or distribute any commercial cannabis goods until the license is renewed.

(c) A licensee may submit a license renewal form up to 30 calendar days after the license expires. Any late renewal form will be subject to a late fee equal to 50 percent of the applicable licensing fee required by subsection (a) of this section.

(d) The license renewal form shall contain the following:

(1) The name of the licensee. For licensees who are individuals, the applicant shall provide both the first and last name of the individual. For licensees who are business entities, the licensee shall provide the legal business name of the applicant.

(2) The license number and expiration date.

(3) The licensee's address of record and licensed premises address.

(4) Documentation demonstrating the maximum dollar value of the licensee's operation for the current licensed period, such as a copy of the licensee's state tax return filed with the California Department of Tax and Fee Administration.

(5) An attestation that all information provided to the Bureau in the original application under section 5002 of this division or subsequent notification under sections 5023 and 5024 of this division is accurate and current.

(6) A limited waiver of sovereign immunity pursuant to section 5009 of this division.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012 and 26050, Business and Professions Code.

§ 5021. Denial of License

(a) The Bureau may deny an application for a new license or a renewal of a license for any reason specified in Business and Professions Code section 26057 and on any additional grounds including grounds for denial under section 5018 of this division, and grounds for discipline under the Act or this division.

(b) Upon denial of an application for a license or renewal of a license, the Bureau shall notify the applicant in writing of the reasons for denial, and the right to a hearing to contest the denial.

(c) The applicant may request a hearing to contest the denial by submitting a written request to the Bureau.

(1) The written request for a hearing must be postmarked within 30 calendar days of service of the notification of denial.

(2) If the written request for a hearing is not received within the required timeframe, the applicant's right to a hearing is waived.

(3) Upon timely receipt of the written request for hearing, the Bureau shall set a date for hearing to be conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

Authority: Section 26013, Business and Professions Code; Reference: Sections 26012 and 26057 and 26058, Business and Professions Code.

§ 5022. Cancellation of License

(a) Every licensee who abandons, quits or who closes the licensed premises for a period exceeding 30 consecutive calendar days, shall request in writing that the Bureau cancel the license, within 10 business days after closing, quitting, or abandoning the licensed premises. The Bureau may revoke the license of a licensee who fails to comply with the provisions of this section. Upon cancellation or revocation of the license, the licensee shall not display and shall destroy the license certificate.

(b) The Bureau may cancel a license at any time upon request by the licensee if there are no outstanding fines or fees due to the Bureau and no disciplinary action is pending.

(c) If a licensee must close the licensed premises for a period exceeding 30 consecutive calendar days to make renovations or repairs, the Bureau may allow the licensee to retain the license if the licensee complies with section 5027 of this division.

(d) A person whose license has been cancelled or revoked pursuant to subsection (a) of this section may submit to the Bureau a written request for the license to be reinstated. Any request shall be submitted to the Bureau prior to the expiration date listed on the cancelled or revoked license. The written request shall specify the reason the licensee failed to comply with subsection (a) of this section and why the license should be reinstated ~~returned~~. The Bureau in its discretion may reinstate the license.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012 and 26050, Business and Professions Code.

§ 5023. Business Modifications

Business modifications for any item contained in the application shall be made in accordance with the following:

(a) Changes to standard operating procedures may be made without providing notification to the Bureau. Licensees shall maintain a copy of all current and prior operating procedures as required by section 5037 of this division.

(b) If at the time of licensure, a licensee employed less than 20 employees and later employs 20 or more employees, the licensee shall provide to the Bureau a document attesting that the licensee has entered into a labor peace agreement and will abide by the terms of the agreement, as soon as reasonably practicable once employing 20 or more employees. Once the licensee has entered into the labor peace agreement, the licensee shall provide the Bureau with a copy of the

page of the labor peace agreement that contains the signatures of the union representative and the applicant.

(c) Licenses are not transferrable. Changes in ownership shall be made in accordance with the following:

(1) If one or more of the owners of a license change, a new license application and fee shall be submitted to the Bureau within 10 business days of the effective date of the ownership change. The business may continue to operate under the active license while the Bureau reviews the application if at least one owner is not transferring his or her ownership interest and will remain as an owner under the new license and ownership structure. If all owners will be transferring their ownership interest, the business shall not operate under the new ownership structure until the new license application has been approved by the Bureau.

(A) A change in ownership occurs when a new person meets the definition of owner in section 5003 of this division.

(B) A change in ownership does not occur when one or more owners leave the business by transferring their ownership interest to the other existing owner(s).

(2) In cases where one or more owners leave the business by transferring their ownership interest to the other existing owner(s), the owner or owners that are transferring their interest shall provide a signed statement to the Bureau confirming that they have transferred their interest.

(d) When there is a change in persons with financial interest(s) in the commercial cannabis business that do not meet the requirements for a new license application under this section, the licensee shall submit the information required by sections 5002(c)(19) and 5004 of this division to the Bureau within 10 business days of the change.

(e) Licensees may request to add an A-designation or M-designation to their license by sending a notification to the Bureau signed by at least one owner as defined in section 5003 of this division. A licensee shall not operate under the requested designation until they have received approval from the Bureau.

(f) Microbusiness licensees may add a commercial cannabis activity to their license or remove a commercial cannabis activity from their license if doing so is consistent with the requirement set forth in section 5500(a) of this division that licensees engage in at least three (3) commercial cannabis activities. Licensees shall request the modification by completing a request to modify the licensed premises pursuant to section 5027 of this division. A licensee shall not engage in a new commercial cannabis activity until they have paid for the modification and received approval from the Bureau.

(g) Licenses may not be transferred from one premises to another. Licensees shall not operate out of a new premises until they have been issued a new license.

Authority: Section 26013, Business and Professions Code. Reference: Sections 136 and 26012, Business and Professions Code.

§ 5024. Death, Incapacity, or Insolvency of a Licensee

(a) In the event of the death, incapacity, receivership, assignment for the benefit of creditors or other event rendering one or more owners' incapable of performing the duties associated with the license, the owner or owners' successor in interest (e.g., appointed guardian, executor, administrator, receiver, trustee, or assignee) shall notify the Bureau in writing, within 10 business days.

(b) To continue operations or cancel the existing license, the successor in interest shall submit to the Bureau the following:

(1) The name of the successor in interest.

(2) The name of the owner(s) for which the successor in interest is succeeding and the license number;

(3) The phone number, mailing address, and email address of the successor in interest; and

(4) Documentation demonstrating that the owner(s) is incapable of performing the duties associated with the license such as a death certificate, or a court order, and documentation demonstrating that the person making the request is the owner or owners' successor in interest such as a court order appointing guardianship, receivership, or a will or trust agreement.

(c) The Bureau may give the successor in interest written approval to continue operations on the licensed business premises for a period of time specified by the Bureau:

(1) If the successor in interest or another person has applied for a license from the Bureau for the licensed premises and that application is under review;

(2) If the successor in interest needs additional time to destroy or sell cannabis goods; or

(3) At the discretion of the Bureau.

(d) The successor in interest is held subject to all terms and conditions under which a state cannabis license is held pursuant to the Act.

(e) The approval creates no vested right to the issuance of a state cannabis license.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012, Business and Professions Code.

§ 5025. Premises

(a) Each license shall have a designated licensed premises, with a distinct street address and suite number if applicable, for the licensee's commercial cannabis activity. Each licensed premises shall be subject to inspection by the Bureau.

(b) The Bureau may allow a licensee to conduct both adult-use and medicinal commercial cannabis activity on the same licensed premises if all of the following criteria are met:

- (1) The licensee holds both an A-designation and an M-designation on the license for the identical type of commercial cannabis activity; and
 - (2) The licensee only conducts one type of commercial cannabis activity on the licensed premises.
- (c) Licensed retailers and licensed microbusinesses shall only serve customers who are within the licensed premises, or at a delivery address that meets the requirements of this division.
- (1) The sale and delivery of cannabis goods shall not occur through a pass-out window or a slide-out tray to the exterior of the licensed premises.
 - (2) Licensed retailers or licensed microbusinesses shall not operate as or with a drive-in or drive-through at which cannabis goods are sold to persons within or about a motor vehicle.
 - (3) No cannabis goods shall be sold and/or delivered by any means or method to any person within a motor vehicle.
- (d) Alcoholic beverages as defined in Business and Professions Code section 23004 shall not be stored or consumed on a licensed premises.
- (e) Any licensed premises that is adjacent to another premises engaging in manufacturing or cultivation shall be separated from those premises by walls, and any doors leading to the cultivation or manufacturing premises shall remain closed.
- (f) Cannabis shall not be dispersed in the air throughout the premises or throughout a portion of the premises by an oil diffuser or any other vaporizing device that is intended to disperse the vapor throughout the premises or throughout a portion of the premises. This section shall not be interpreted to prohibit cannabis consumption on the premises of a retailer or microbusiness that is conducted in accordance with Business and Professions Code section 26200(g).
- (g) Notwithstanding subsection (c) of this section, an applicant or licensee may have a drive-in or drive-through window only if, prior to June 1, 2018:
- (1) The licensee or applicant received a license or permit from the local jurisdiction for a premises including a drive-in or drive-through window which was disclosed on the local application; or
 - (2) The licensee or applicant has submitted an application to the local jurisdiction for a license or permit which, at the time of submission of the application, included information that a drive-in or drive-through window was already part of, or proposed to be part of, the premises, and after June 1, 2018, the local jurisdiction approves the premises with a drive-in or drive-through window.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26001, 26012, and 26053, Business and Professions Code.

§ 5026. Premises Location

(a) A premises licensed under this division shall not be located within a 600-foot radius of a school providing instruction in kindergarten or any grades 1 through 12, day care center, or youth center that is in existence at the time the license is issued.

(b) Notwithstanding subsection (a) of this section, if a local jurisdiction has issued a license or permit to conduct commercial cannabis activity at a premises that is located within a 600-foot radius of a school providing instruction in kindergarten or any grades 1 through 12, day care center, or youth center, the Bureau may approve the premises for licensure if the following conditions are met:

(1) The applicant submits a copy of a valid license or permit from the local jurisdiction with the application for licensure; and

(2) The local jurisdiction notifies the Bureau that the applicant is in compliance with all applicable local ordinances and regulations pursuant to Business and Professions Code section 26055(g)(2)(C).

(c) A licensed premises shall not be in a location that requires persons to pass through a business that sells alcohol or tobacco or a private residence to access the licensed premises, or that requires persons to pass through the licensed premises to access a business that sells alcohol or tobacco or a private residence.

(d) A licensed premises shall not be located within a private residence.

(e) Licensees shall ensure that the Bureau has immediate access to their licensed premises. If the Bureau is denied access to a licensee's premises for any reason, the licensee shall be held responsible and subject to discipline. If the Bureau is denied access to one licensee's premises because of another licensee's refusal to grant access when the only access to one licensed premises is through another licensed premises, all licensees shall be held responsible and subject to discipline.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26051.5, 26054 and 26055, Business and Professions Code.

§ 5027. Physical Modification of Premises

(a) A licensee shall not, without the prior written approval of the Bureau, make a physical change, alteration, or modification of the licensed premises that materially or substantially alters the licensed premises or the use of the licensed premises from the premises diagram originally filed with the license application. A licensee whose licensed premises is to be materially or substantially changed, modified, or altered is responsible for filing a request for premises modification with the Bureau.

(b) Material or substantial changes, alterations, or modifications requiring approval include, but are not limited to:

(1) The removal, creation, or relocation of a common entryway, doorway, passage, or a means of public entry or exit, when such common entryway, doorway, or passage alters or changes limited-access areas within the licensed premises;

(2) The removal, creation, or relocation of a wall or barrier; or

(3) Changing the activities conducted in or the use of an area identified in the last premises diagram provided to the Bureau.

(c) A licensee shall request approval of a physical change, alteration, or modification in writing, and the request shall include:

(1) A new premises diagram that conforms to requirements in section 5006 of this division; and

(2) A fee pursuant to section 5014 of this division.

(d) A licensee shall provide additional documentation requested by the Bureau to evaluate the licensee's request to modify the licensed premises.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012 and 26055, Business and Professions Code

§ 5028. Subletting of Premises

A licensee shall not sublet any area designated as the licensed premises for the licensee's commercial cannabis activity.

Authority: Section 26013, Business and Professions Code. Reference: Sections ~~26013~~ 26012 and 26070, Business and Professions Code

§ 5029. [reserved]

§ 5030. Licensee's Responsibility for Acts of Employees and Agents

In construing and enforcing the provisions of the Act and the regulations in this division, the act, omission, or failure of an agent, officer, representative, or other person acting for or employed by a licensee, within the scope of his or her employment or office, shall in every case be deemed the act, omission, or failure of the licensee.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26031 and 26110, Business and Professions Code.

§ 5031. Age Restriction

Employees or persons retained by a licensee to work within or on a licensed premises or to handle cannabis goods shall be at least 21 years of age.

Authority: Section 26013, Business and Professions Code. Reference: Section 26140, Business and Professions Code.

§ 5032. Designated M and A Commercial Cannabis Activity

- (a) All commercial cannabis activity shall be conducted between licensees. Retail licensees may conduct commercial cannabis activity with customers in accordance with chapter 3 of this division.
- (b) Licensees may conduct business with other licensees irrespective of the M-designation or A-designation on their licenses.
- (c) Licensed distributors or licensed microbusinesses shall only transport and sell cannabis goods designated as “For Medical Use Only,” pursuant to the requirements prescribed by the State Department of Public Health in regulation, to M-designated retailers or M-designated microbusinesses;
- (d) Products designated as “For Medical Use Only,” pursuant to requirements prescribed by the State Department of Public Health in regulation, shall only be sold to medicinal customers by M-designated retailers or M-designated microbusinesses.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26001, 26013, and 26053, Business and Professions Code.

§ 5033. Storage of Inventory

- (a) All inventory stored on the licensed premises shall be secured in a limited-access area.
- (b) A licensee shall not store cannabis goods outdoors.
- (c) Employee break rooms, changing facilities, and bathrooms shall be separated from all storage areas.
- (d) Each location where cannabis goods are stored must be separately licensed.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012 and 26070, Business and Professions Code.

§ 5034. Significant Discrepancy in Inventory

- (a) A significant discrepancy in inventory means a difference in actual inventory compared to records pertaining to inventory of at least \$5,000 or 2 percent of the average monthly sales of the licensee, whichever is less.
- (b) For the purposes of this section, average monthly sales shall be calculated by taking a per month average of the total sales for the previous 6 months. If the licensee has not been in operation for at least 6 months, only the months in which the licensee was operating shall be used in determining average monthly sales.
- (c) For the purposes of this section, the licensee’s acquisition price shall be used to determine the value of cannabis goods in a licensee’s inventory.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5035. Notification of Criminal Acts, Civil Judgments, Violations of Labor Standards, and Revocation of a Local License, Permit, or Other Authorization After Licensure

(a) A licensee shall ensure that the Bureau is notified in writing of a criminal conviction of any owner, either by mail or electronic mail, within 48 hours of the conviction. The written notification to the Bureau shall include the date of conviction, the court docket number, the name of the court in which the licensee was convicted, and the specific offense(s) for which the licensee was convicted.

(b) A licensee shall ensure that the Bureau is notified in writing of a civil penalty or judgment rendered against the licensee or any owner in their individual capacity, either by mail or electronic mail, within 48 hours of delivery of the verdict or entry of judgment, whichever is sooner. The written notification shall include the date of verdict or entry of judgment, the court docket number, the name of the court in which the matter was adjudicated, and a description of the civil penalty or judgment rendered against the licensee.

(c) A licensee shall ensure that the Bureau is notified in writing of an administrative order or civil judgment for violations of labor standards against the licensee or any owner in their individual capacity, either by mail or electronic mail, within 48 hours of delivery of the order. The written notification shall include the date of the order, the name of the agency issuing the order, and a description of the administrative penalty or judgment rendered against the licensee.

(d) A licensee shall ensure that the Bureau is notified in writing of the revocation of a local license, permit, or other authorization, either by mail or electronic mail within 48 hours of receiving notice of the revocation. The written notification shall include the name of the local agency involved, a written explanation of the proceeding or enforcement action, and the specific violation(s) that led to revocation.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26030 and 26031, Business and Professions Code.

§ 5036. Notification of Theft, Loss, and Criminal Activity

(a) A licensee shall notify the Bureau and local law enforcement within 24 hours of discovery of any of the following situations:

(1) The licensee discovers a significant discrepancy, as defined in section 5034 of this division, in its inventory.

(2) The licensee discovers diversion, theft, loss, or any other criminal activity pertaining to the operations of the licensee.

(3) The licensee discovers diversion, theft, loss, or any other criminal activity by an agent or employee of the licensee pertaining to the operations of the licensee.

(4) The licensee discovers loss or unauthorized alteration of records related to cannabis goods, customers, or the licensee's employees or agents.

(5) The licensee discovers any other breach of security.

(b) The notification to the Bureau pursuant to subsection (a) of this section shall be in writing and include the date and time of occurrence of the theft, loss, or criminal activity, the name of the local law enforcement agency that was notified, and a description of the incident including, where applicable, the item(s) that were taken or lost.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5037. Record Retention

(a) Each licensee shall keep and maintain the following records related to commercial cannabis activity for at least seven years:

(1) Financial records including, but not limited to, bank statements, sales invoices, receipts, tax records, and all records required by the California Department of Tax and Fee Administration (formerly Board of Equalization) under title 18, California Code of Regulations, sections 1698 and 4901.

(2) Personnel records, including each employee's full name, social security or individual tax payer identification number, date employment begins, and date of termination of employment if applicable.

(3) Training records including, but not limited to, the content of the training provided and the names of the employees that received the training.

(4) Contracts with other licensees regarding commercial cannabis activity.

(5) Permits, licenses, and other local authorizations to conduct the licensee's commercial cannabis activity.

(6) Security records, except for surveillance recordings required pursuant to section 5044 of this division.

(7) Records relating to the composting or destruction of cannabis goods.

(8) Documentation for data or information entered into the track and trace system.

(9) All other documents prepared or executed by an owner or their employees or assignees in connection with the licensed commercial cannabis business.

(b) All required records shall be prepared and retained in accordance with the following conditions:

(1) Records shall be legible; and

(2) Records shall be stored in a secured area where the records are protected from debris; moisture; contamination; hazardous waste; fire; and theft.

(c) The Bureau may make any examination of the books and records of any licensee as it deems necessary to perform its duties under the Act.

(d) All records are subject to review by the Bureau anytime the licensee is exercising the privileges of the license or at any other time as mutually agreed to by the Bureau and the licensee. Prior notice by the Bureau to review records is not necessary. The Bureau may review records outside of the licensee's standard daily business hours.

(e) Records shall be kept in a manner that allows records to be produced for the Bureau immediately upon request at the licensed premises in either hard copy or electronic form, whichever the Bureau requests.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26160 and 26161, Business and Professions Code.

§ 5038. Disaster Relief

(a) If a licensee is unable to comply with any licensing requirements due to a disaster, the licensee may notify the Bureau of this inability to comply and request relief from the specific licensing requirement.

(b) The Bureau may exercise its discretion to provide temporary relief from specific regulatory requirements in this division and from other licensing requirements when allowed by law.

(c) Temporary relief from specific licensing requirements shall be issued for a reasonable amount of time in order to allow the licensee to recover from the disaster.

(d) The Bureau may require that certain conditions be followed in order for a licensee to receive temporary relief from specific licensing requirements.

(e) A licensee shall not be subject to an enforcement action for a violation of a licensing requirement in which the licensee has received temporary relief.

(f) For the purposes of this section, "disaster" means condition of extreme peril to the safety of persons and property within the state or a county, city and county, or city caused by such conditions as air pollution, fire, flood, storm, tidal wave, epidemic, riot, drought, terrorism, sudden and severe energy shortage, plant or animal infestation or disease, Governor's warning of an earthquake or volcanic prediction, or an earthquake, or similar public calamity, other than conditions resulting from a labor controversy, for which the Governor has proclaimed a state of emergency in accordance with Government Code sections 8558 and 8625, or for which a local governing body has proclaimed a local emergency in accordance with Government Code sections 8558 and 8630.

(g) A licensed premises that has been vacated by a licensee due to a disaster shall not be deemed to have been, abandoned, or quit under section 5022 of this division.

(h) Notwithstanding subsection (a) of this section, if a licensee needs to move cannabis goods stored on the licensed premises to another location immediately to prevent loss, theft, or degradation of the cannabis goods from the disaster, the licensee may move the cannabis goods without obtaining prior approval from the Bureau if the following conditions are met:

(1) The cannabis goods are moved to a secure location where access to the cannabis goods can be restricted to the licensee, its employees, and contractors;

(2) The licensee notifies the Bureau in writing that the cannabis goods have been moved and that the licensee is requesting relief from complying with specific licensing requirements pursuant to subsection (a) of this section within 24 hours of moving the cannabis goods;

(3) The licensee agrees to grant the Bureau access to the location where the cannabis goods have been moved to for inspection; and

(4) The licensee submits in writing to the Bureau within 10 business days of moving the cannabis goods a request for temporary relief that clearly indicates what statutory and regulatory sections relief is requested from, the time period for which the relief is requested, and the reasons relief is needed for the specified amount of time.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012, Business and Professions Code.

Article 4. Posting and Advertising

§ 5039. License Posting Requirement

Upon issuance of any license, the licensee shall prominently display the license on the licensed premises where it can be viewed by state and local agencies. If the licensed premises is open to the public, the license shall be displayed in an area that is within plain sight of the public.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012, Business and Professions Code.

§ 5040. Advertising Placement

(a) Any advertising or marketing, as defined in Business and Professions Code section 26150, that is placed in broadcast, cable, radio, print, and digital communications:

(1) Shall only be displayed after a licensee has obtained reliable up-to-date audience composition data demonstrating that at least 71.6 percent of the audience viewing the advertising or marketing is reasonably expected to be 21 years of age or older;

(2) Shall not use any depictions or images of minors under 18 years of age.

(3) Shall not contain the use of objects, such as toys, inflatables, movie characters, cartoon characters, or include any other display, depiction, or image designed in any manner likely to be appealing to minors under 18 years of age; and

(4) Shall not advertise free cannabis goods or giveaways of any type of products. This includes promotions such as:

(A) Buy one product get one free;

(B) Free product with any donation; and

(C) Contests, sweepstakes, or raffles.

(b) In addition to the requirements for advertising and marketing in subsection (a) of this section, all outdoor signs, including billboards, must be affixed to a building or permanent structure. All outdoor advertising must be in compliance with the Outdoor Advertising Act, commencing with section 5200 of the Business and Professions Code.

(c) For the purposes of this section, “reliable up-to-date audience composition data” means data regarding the age and location demographics of the audience viewing a particular advertising or marketing medium. “Reliable up-to-date audience composition data” does not include data from the most recent United States decennial or special census, or the annual population estimate for California counties published by the Demographic Research Unit, State Department of Finance.

(d) Immediately upon request, a licensee shall provide to the Bureau audience composition data as required in subsection (a) of this section for advertising or marketing placed by the licensee.

(e) If the Bureau determines that audience composition data for advertising or marketing provided by a licensee does not comply with the requirements of subsection (a) of this section, or the licensee fails to provide audience composition data to the Bureau upon request, the licensee shall remove the advertising or marketing placement in question.

(f) In construing and enforcing the advertising provisions of the Act and this division, any action, omission, or failure of an advertising agent, representative, or contractor retained by the licensee, shall in every case be deemed the act, omission, or failure of the licensee.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26151 and 26152, Business and Professions Code.

§ 5041. Age Confirmation in Advertising

(a) Prior to any advertising or marketing from the licensee involving direct, individualized communication or dialogue, the licensee shall use age affirmation to verify that the recipient is 21 years of age or older.

(b) For the purposes of this section, direct, individualized communication or dialogue may occur through any form of communication, including in-person, telephone, physical mail, or electronic.

(c) A method of age verification is not necessary for a communication if the licensee can verify that the licensee has previously had the intended recipient undergo a method of age affirmation and the licensee is reasonably certain that the communication will only be received by the intended recipient.

(d) A licensee shall use a method of age affirmation before having a potential customer added to a mailing list, subscribe, or otherwise consent to receiving direct, individualized communication or dialogue controlled by a licensee.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26151 and 26152, Business and Professions Code.

Article 5. Security Measures

§ 5042. Limited-Access Areas

- (a) Licensees shall ensure that only employees of the licensee and other authorized individuals access the limited-access areas of the licensed premises.
- (b) For the purpose of this section, authorized individuals include individuals employed by the licensee as well as any outside vendors, contractors, or other individuals conducting business that requires access to the limited-access areas.
- (c) An individual who enters the limited-access area that is not employed by the licensee shall be escorted by an employee of the licensee at all times while within the limited-access area.
- (d) A licensee shall maintain a record of all authorized individuals that are not employees of the licensee who enter the limited-access areas. The record shall include the name of the individual, the company the individual works for, the reason the individual entered the limited-access area, the date, and the times the individual entered and exited the limited-access area. These records shall be made available to the Bureau immediately upon request.
- (e) A licensee shall not receive consideration or compensation for permitting an individual to enter the limited-access areas.
- (f) Entrances to all limited-access areas shall have a solid door and a lock meeting the requirements of section 5046 of this division. The door shall remain closed when not in use during regular business hours.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5043. Licensee Employee Badge Requirement

All agents, officers, or other persons acting for or employed by a licensee shall display a laminated or plastic-coated identification badge issued by the licensee at all times while engaging in commercial cannabis activity. The identification badge shall, at a minimum, include the licensee's "doing business as" name and license number, the employee's first name, an employee number exclusively assigned to that employee for identification purposes, and a color photograph of the employee that clearly shows the full front of the employee's face and that is at least 1 inch in width and 1.5 inches in height.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5044. Video Surveillance System

- (a) Each licensed premises shall have a digital video surveillance system with a minimum camera resolution of 1280 × 720 pixels.
- (b) The surveillance-system storage device or the cameras shall be transmission control protocol (TCP) capable of being accessed through the internet.

- (c) The video surveillance system shall at all times be able to effectively and clearly record images of the area under surveillance.
- (d) Each camera shall be permanently mounted and in a fixed location. Each camera shall be placed in a location that allows the camera to clearly record activity occurring within 20 feet of all points of entry and exit on the licensed premises, and allows for the clear and certain identification of any person and activities in all areas required to be filmed under subsection (e) of this section.
- (e) Areas that shall be recorded on the video surveillance system include the following:
- (1) Areas where cannabis goods are weighed, packed, stored, loaded, and unloaded for transportation, prepared, or moved within the licensed premises;
 - (2) Limited-access areas;
 - (3) Security rooms;
 - (4) Areas storing a surveillance-system storage device with at least one camera recording the access points to the secured surveillance recording area; and
 - (5) Entrances and exits to the licensed premises, which shall be recorded from both indoor and outdoor vantage points.
- (f) Licensed retailers and licensed microbusiness shall also record point-of-sale areas and areas where cannabis goods are displayed for sale on the video surveillance system. At each point-of-sale location, camera placement must allow for the recording of the facial features of any person purchasing or selling cannabis goods, or any person in the retail area, with sufficient clarity to determine identity.
- (g) Cameras shall record continuously 24 hours per day and at a minimum of 15 frames per second (FPS).
- (h) The physical media or storage device on which surveillance recordings are stored shall be secured in a manner to protect the recording from tampering or theft.
- (i) Surveillance recordings shall be kept for a minimum of 90 days.
- (j) Surveillance recordings are subject to inspection by the Bureau, and shall be kept in a manner that allows the Bureau to view and obtain copies of the recordings at the licensed premises immediately upon request. The licensee shall also send or otherwise provide copies of the recordings to the Bureau upon request within the time specified by the Bureau.
- (k) Recorded images shall clearly and accurately display the time and date. Time is to be measured in accordance with the United States National Institute Standards and Technology standards.
- (l) The video surveillance system shall be equipped with a failure notification system that provides notification to the licensee of any interruption or failure of the video surveillance system or video surveillance-system storage device.

(m) If multiple licensed premises are contained within the same building, a single video surveillance system covering the entire building may be used by all of the licensees under the following conditions:

(1) Each applicant or licensee shall disclose on their premises diagram where the surveillance recordings are stored.

(2) Each applicant or licensee shall include in their security operating procedures, submitted with the application pursuant to section 5002(c)(29)(D) of this division, an explanation of how the video surveillance system will be shared, including who is responsible for monitoring the video footage and storing any video recordings.

(3) All licensees shall have immediate access to the surveillance recordings to produce them pursuant to subsection (j) of this section.

(4) All licensees shall be held responsible and subject to discipline for any violations of the video surveillance requirements.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5045. Security Personnel

(a) A retail licensee or microbusiness licensee who is engaged in retail sale shall hire or contract for security personnel who are at least 21 years of age to provide security services for the licensed retail premises. All security personnel hired or contracted for by the licensee shall be licensed by the Bureau of Security and Investigative Services and shall comply with Chapters 11.4 and 11.5 of Division 3 of the Business and Professions Code.

(b) Notwithstanding subsection (a) of this section, a licensed non-storefront retailer or licensed microbusiness who is not engaged in storefront retail sale is not required to hire or contract for security personnel.

(c) If multiple licensed premises are contained within the same building, security personnel may be shared by all of the licensees to cover the entire building under the following conditions:

(1) Each licensee shall include in their security operating procedures, submitted with the application pursuant to section 5002(c)(29)(D) of this division, an explanation of how security personnel will be shared, including who is responsible for employing or contracting the security personnel.

(2) All licensees shall be held responsible and subject to discipline for any violations of the security personnel requirements.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5046. Locks

A licensee shall ensure that the limited-access areas described in section 5042 of this division can be securely locked using commercial-grade, nonresidential door locks. A licensee shall also use commercial-grade, nonresidential door locks on all points of entry and exit to the licensed premises.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5047. Alarm System

(a) A licensee shall maintain an alarm system as defined in Business and Professions Code section 7590.1(n) at the licensed premises.

(b) A licensee shall ensure a licensed alarm company operator or one or more of its registered alarm agents installs, maintains, monitors, and responds to the alarm system.

(c) Upon request, a licensee shall make available to the Bureau all information related to the alarm system, monitoring, and alarm activity.

(d) If multiple licensed premises are contained within the same building, a single alarm system covering the entire building may be used by all of the licensees under the following conditions:

(1) Each licensee shall include in their security operating procedures, submitted with the application pursuant to section 5002(c)(29)(D) of this division, an explanation of how the alarm system will be shared, including who is responsible for contracting with the alarm company.

(2) All licensees shall have access to and be able to provide the information under subsection (c) of this section.

(3) All licensees shall be held responsible and subject to discipline for any violations of the alarm system requirements.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

Article 6. Track and Trace Requirements

§ 5048. Track and Trace System

(a) A licensee shall create and maintain an active and functional account within the track and trace system prior to engaging in any commercial cannabis activity, including the purchase, sale, test, packaging, transfer, transport, return, destruction, or disposal, of any cannabis goods.

(b) A licensee shall designate one individual owner as the track and trace system account manager. The account manager may authorize additional owners or employees as track and trace system users and shall ensure that each user is trained on the track and trace system prior to its access or use.

- (1) The account manager shall attend and successfully complete all required track and trace system training, including any orientation and continuing education.
- (2) If the account manager did not complete the required track and trace system training prior to receiving their annual license, the account manager shall sign up for and complete state mandated training, as prescribed by the Bureau, within five business days of license issuance.
- (c) The account manager and each user shall be assigned a unique log-on, consisting of a username and password. The account manager or each user accessing the track and trace system shall only do so under his or her assigned log-on, and shall not use or access a log-on of any other individual. No account manager or user shall share or transfer his or her log-on, username, or password, to be used by any other individual for any reason.
- (d) The account manager shall maintain a complete, accurate, and up-to-date list of all track and trace system users, consisting of their full names and usernames.
- (e) A licensee shall monitor all compliance notifications from the track and trace system, and timely resolve the issues detailed in the compliance notification.
- (1) A licensee shall keep a record, independent of the track and trace system, of all compliance notifications received from the track and trace system, and how and when compliance was achieved.
- (2) If a licensee is unable to resolve a compliance notification within three business days of receiving the notification, the licensee shall notify the Bureau immediately.
- (f) A licensee is accountable for all actions its owners or employees take while logged into or using the track and trace system, or otherwise while conducting track and trace activities.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26067, 26070, 26160 and 26161, Business and Professions Code.

§ 5049. Track and Trace Reporting

- (a) A licensee shall record in the track and trace system all commercial cannabis activity, including:
 - (1) Packaging of cannabis goods.
 - (2) Sale and transfer of cannabis goods.
 - (3) Transportation of cannabis goods to a licensee.
 - (4) Receipt of cannabis goods.
 - (5) Return of cannabis goods.
 - (6) Destruction and disposal of cannabis goods.
 - (7) Laboratory testing and results.

- (8) Any other activity as required pursuant to this division, or by any other licensing authority.
- (b) The following information shall be recorded for each activity entered in the track and trace system:
- (1) Name and type of the cannabis goods.
 - (2) Unique identifier of the cannabis goods.
 - (3) Amount of the cannabis goods, by weight or count, and total sale price of the cannabis goods, as applicable.
 - (4) Date and time of the activity or transaction.
 - (5) Name and license number of other licensees involved in the activity or transaction.
 - (6) If the cannabis goods are being transported:
 - (A) The licensee shall transport pursuant to a shipping manifest generated through the track and trace system, that includes items (1) through (5) of this subsection, as well as:
 - (i) The name, license number, and premises address of the originating licensee.
 - (ii) The name, license number, and licensed premises address of the licensee transporting the cannabis goods.
 - (iii) The name, license number, and licensed premises address of the destination licensee receiving the cannabis goods into inventory or storage.
 - (iv) The date and time of departure from the licensed premises and approximate date and time of departure from each subsequent licensed premises, if any.
 - (v) Arrival date and estimated time of arrival at each licensed premises.
 - (vi) Driver license number of the personnel transporting the cannabis goods, and the make, model, and license plate number of the vehicle used for transport.
 - (B) Upon pick-up or receipt of cannabis goods for transport, storage, or inventory, a licensee shall ensure that the cannabis goods received are as described in the shipping manifest, and shall record acceptance and acknowledgment of the cannabis goods in the track and trace system.
 - (C) If there are any discrepancies between the type or quantity specified in the shipping manifest and the type or quantity received by the licensee, the licensee shall record and document the discrepancy in the track and trace system and in any relevant business record.
 - (7) If cannabis goods are being destroyed or disposed of, the licensee shall record in the track and trace system the following additional information:
 - (A) The name of the employee performing the destruction or disposal.
 - (B) The reason for destruction or disposal.

(C) The name of the entity being used to collect and process cannabis waste, pursuant to section 5055 of this division.

(8) Description for any adjustments made in the track and trace system, including, but not limited to:

(A) Spoilage or fouling of the cannabis goods.

(B) Any event resulting in exposure or compromise of the cannabis goods.

(9) Any other information as required pursuant to this division, or by any other applicable licensing authorities.

(c) Unless otherwise specified, all transactions must be entered into the track and trace system within 24 hours of occurrence.

(d) Licensees shall only enter and record complete and accurate information into the track and trace system, and shall correct any known errors entered into the track and trace system immediately upon discovery.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26067, 26070, and 26160, Business and Professions Code.

§ 5050. Loss of Access

(a) If at any point a licensee loses access to the track and trace system for any reason, the licensee shall prepare and maintain comprehensive records detailing all commercial cannabis activities that were conducted during the loss of access.

(b) The licensee shall both document and notify the Bureau immediately:

(1) When access to the system is lost;

(2) When access to the system is restored; and

(3) The cause for the loss of access.

(c) Once access is restored, all commercial cannabis activity that occurred during the loss of access shall be entered into the track and trace system within three business days of access being restored.

(d) A licensee shall not transport, transfer, receive, or deliver any cannabis goods until such time as access is restored and all information recorded in the track and trace system.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26067, 26070, and 26160, Business and Professions Code.

§ 5051. Track and Trace System Reconciliation

(a) In addition to other inventory reconciliation requirements under this division, a licensee shall reconcile the physical inventory of cannabis goods at the licensed premises with the records in the track and trace database at least once every 14 calendar days.

(b) If a licensee finds a discrepancy between its physical inventory and the track and trace system database, the licensee shall conduct an audit, and notify the Bureau of any reportable activity pursuant to section 5036 of this division.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26067, 26070, and 26160, Business and Professions Code.

§ 5052. Temporary Licenses; Licensees in Operation at Time of Licensure

(a) A licensee operating under a temporary license issued pursuant to section 5001 of this division is not required to record commercial cannabis activity in the track and trace system as otherwise required by this article.

(b) Temporary licensees shall track and record all cannabis commercial activities and information required pursuant to this division and any other provision of law, at a minimum, on paper receipts, invoices, or manifests.

(c) Any commercial cannabis activity conducted between annual license holders shall be recorded in the track and trace system.

(d) Any licensee in operation at the time the annual license is issued shall enter all inventory into the track and trace system no later than 30 calendar days after the track and trace system account manager attends the training required pursuant to section 5048 of this division.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26050.1, 26067, 26070, and 26160, Business and Professions Code.

Article 7. Returns and Destruction

§ 5052.1. Acceptance of Shipments

(a) Licensees shall accept or reject in whole shipments of cannabis goods.

(b) Notwithstanding subsection (a) of this section, if a licensee receives a shipment containing cannabis goods that differ from those listed on the sales invoice or receipt, the licensee shall reject the portion of the shipment that is not accurately reflected on the sales invoice or receipt.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26013, 26070 and 26161, Business and Professions Code.

§ 5053. Returns Between Licensees

(a) If a licensee discovers that a manufactured cannabis good that was purchased from another licensee is defective, the purchasing licensee may return the cannabis good to the selling licensee

only in exchange for a non-defective version of the same type of cannabis good or in exchange for a cannabis good of equal value.

(b) Except as provided in subsection (a) of this section, a licensee shall not return cannabis goods purchased from another licensee.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26013 and 26070, Business and Professions Code.

§ 5054. Destruction of Cannabis Products Prior to Disposal

(a) Licensees shall not dispose of cannabis goods, unless disposed of as cannabis waste, defined under section 5000(e) of this division.

(b) In order to be disposed of as cannabis waste, cannabis goods must first be destroyed, which at a minimum, includes removing the cannabis goods from any packaging and rendering it unrecognizable and unusable.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26013 and 26070, Business and Professions Code.

§ 5055. Cannabis Waste Management

(a) A licensee may not sell, transfer, donate, or give away cannabis waste-, unless in accordance with this section.

(b) Licensees shall comply with all applicable waste management laws including, but not limited to, Division 30 of the Public Resources Code.

(c) For the purpose of this section, the following shall apply:

(1) A “third-party waste hauler” means any of the following:

(A) The local agency;

(B) A waste hauler franchised or contracted by the local agency; or

(C) A private waste hauler permitted by the local agency.

(2) A “solid waste facility” means any of the following:

(A) A manned, fully permitted solid waste landfill or transformation facility;

(B) A manned, fully permitted composting facility or manned composting operation;

(C) A manned, fully permitted in-vessel digestion facility or manned in-vessel digestion operation;

(D) A manned, fully permitted transfer processing facility or manned transfer/processing operation; or

(E) A manned, fully permitted chip and grind facility or manned chip and grind operation.

(3) “Secured waste receptacle” or “secured area” means a receptacle area where physical access is restricted to the licensee, its employees, and third-party waste hauler, and public access, or any other access, to the designated receptacle or area is prohibited.

(d) A licensee shall dispose of cannabis waste in a secured waste receptacle or in a secured area on the licensed premises, until it can be collected by the licensee or a third-party waste hauler, and processed at a solid waste facility.

(e) A licensee shall have a cannabis waste management plan in place that identifies one or more of the following methods for managing cannabis waste:

(1) If licensee is composting cannabis waste on a licensed premises, a licensee shall do so in compliance with title 14, California Code of Regulations, Chapter 3.1 (commencing with Section 17850).

(2) If a licensee is self-hauling cannabis waste to a solid waste facility, a licensee shall do all of the following:

(A) Obtain from the solid waste facility for each delivery of cannabis waste, a copy of a certified weight ticket or receipt documenting delivery.

(B) Only the licensee or its employees may transport self-hauled cannabis waste.

(3) If the licensee is using a third-party waste hauler to collect and process cannabis waste, a licensee shall do all the following:

(A) A licensee shall maintain the following information for any third-party waste hauler who will collect and process the licensee’s cannabis waste and shall provide the information to the Bureau immediately upon request:

(i) Name of local agency providing waste hauler services, if applicable;

(ii) Company name and business address, of the waste hauler franchised or contracted by the local agency, or private waste hauler permitted by the local agency, if applicable; and

(iii) Name and phone number of the primary contact person at the company.

(B) Obtain documentation from the entity hauling the waste that indicates the date and time of each collection of cannabis waste at the licensed premises; and

(C) Obtain a copy of the certified weight ticket or other documentation prepared by the entity hauling the waste that confirms receipt of the cannabis waste at the solid waste facility.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

Chapter 2. DISTRIBUTORS

§ 5300. Distribution Activities

A licensed distributor shall distribute only cannabis goods, cannabis accessories, and licensees' branded merchandise or promotional materials.

Authority: Sections 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5301. Storage Services

(a) A licensed distributor may provide storage services, including storage-only services that are unrelated to the quality assurance and laboratory testing processes, to a licensed cultivator, licensed manufacturer, licensed microbusiness, licensed retailer, or another licensed distributor.

(b) A licensed distributor may provide storage services to other licensees for only cannabis goods, cannabis accessories, and licensees' branded merchandise or promotional materials.

(c) Notwithstanding subsection (b) of this section, a licensed distributor shall not store live plants on the licensed premises.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5302. Storage of Batches for Testing

(a) A licensed distributor shall ensure that all cannabis goods batches are stored separately and distinctly from other cannabis goods batches on the licensed distributor's premises.

(b) A licensed distributor shall ensure a label with the following information is physically attached to each container of each batch:

- (1) The name and license number of the manufacturer or cultivator who provided the batch;
- (2) The date of entry into the licensed distributor's storage area;
- (3) The unique identifiers and batch number associated with the batch;
- (4) A description of the cannabis goods with enough detail to easily identify the batch;
- (5) The weight of or quantity of units in the batch; and
- (6) The best-by, sell-by, or expiration date of the batch, if any.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26110 and 26120, Business and Professions Code.

§ 5303. Packaging and Labeling

(a) A licensed distributor may package, re-package, label, and re-label cannabis, including pre-rolls, for retail sale.

(b) A licensed distributor shall not package, re-package, label, or re-label manufactured cannabis products except when the licensed distributor also holds a manufacturing license and is packaging, re-packaging, labeling, or re-labeling its own manufactured cannabis products at its licensed manufacturing premises.

(c) Notwithstanding subsection (b) of this section, licensed distributors may also re-label the package with the accurate amount of cannabinoids and terpenoids if laboratory testing determines that the manufactured product is labeled with incorrect amounts. Prior to re-labeling the package, the licensed distributor shall send the Certificate of Analysis from the licensed testing laboratory to the licensed manufacturer that manufactured the cannabis goods.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26013 and 26120, Business and Professions Code

§5303.1. Net Weight of Dried Flower

For purposes of this division, the net weight on any package of dried flower shall not be considered inaccurate if the actual weight is within plus or minus 2.5% of the labeled weight.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26013 and 26120, Business and Professions Code

§ 5304. Testing Arrangements

After taking physical possession of a cannabis goods batch, the licensed distributor shall contact a testing laboratory and arrange for a laboratory employee to come to the licensed distributor's licensed premises to select a representative sample for laboratory testing.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26104, 26110, Business and Professions Code.

§ 5305. Testing Sample

(a) The licensed distributor shall ensure that the batch size from which the sample is taken meets the requirements of this division.

(b) A licensed distributor or an employee of the licensed distributor shall be physically present to observe the laboratory employee obtain the sample of cannabis goods for testing and shall ensure that the increments are taken from throughout the batch.

(c) The sampling shall be video recorded with the batch number stated verbally or in writing on the video at the beginning of the video and a visible time and date indication on the video recording footage. The video recordings shall be maintained for 90 days by the licensed distributor.

(d) After the sample has been selected, both the licensed distributor and the laboratory employee shall sign and date the chain of custody form pursuant to section 5706 of this division, attesting to the sample selection having occurred.

(e) A licensed distributor shall not assist the laboratory employee nor touch the cannabis goods or the sampling equipment while the laboratory employee is obtaining the sample.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26104 and 26110, Business and Professions Code.

§ 5306. Laboratory Testing Results

(a) A sample “passes” a laboratory test when the sample meets specifications in chapter 6 of this division.

(b) When a batch from a manufactured or harvest batch passes, the cannabis goods may be transported to one or more licensed retailers, licensed distributors, or licensed microbusinesses.

(c) A sample “fails” a laboratory test when the sample does not meet specifications in chapter 6 of this division.

(d) If a failed sample was collected from a batch and the batch could be remediated pursuant to section 5727 of this division, a licensed distributor may transport or arrange for the transportation of the batch to a manufacturer for remediation.

(e) A licensed distributor shall destroy a batch that failed laboratory testing and cannot be remediated pursuant to section 5727 of this division.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070, 26100, 26104 and 26110, Business and Professions Code.

§ 5307. Quality-Assurance Review

When a licensed distributor receives a certificate of analysis from the licensed testing laboratory or upon transfer from another licensed distributor stating that the sample meets specifications required by law, the distributor shall ensure the following before transporting the cannabis goods to one or more licensed retailers or licensed microbusinesses:

(a) The certificate of analysis for the required testing under section 5714 of this division that the licensed distributor received from the testing laboratory is the certificate of analysis that corresponds to the batch;

(b) The label on the cannabis goods is consistent with the certificate of analysis regarding cannabinoid content and contaminants required to be listed by law;

(c) The packaging and labeling of the cannabis goods complies with Business and Professions Code Section 26120 and all applicable regulations within this division as well as California Code of Regulations, Title 3, Division 8 and Title 17, Division 1, Chapter 13, except cannabis goods are not required to be labeled or otherwise identified as medicinal products prior to retail sale unless the cannabis goods must be labeled as such pursuant to the requirements prescribed by the State Department of Public Health in regulation;

(d) The weight or count of the cannabis batch comports with that in the track and trace system. A licensed distributor shall use scales as required by the Act; and

(e) All events prior to receipt have been entered into the track and trace system.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070, 26110 and 26120, Business and Professions Code.

§ 5308. Insurance Requirements

(a) An applicant for a distributor license shall provide the Bureau with a certificate of insurance that shows the types of insurance coverage and minimum amounts that have been secured as required by this section, and documentation establishing compliance with subsection (d) of this section.

(b) A distributor licensee shall at all times carry and maintain commercial general liability insurance in the aggregate in an amount no less than \$2,000,000 and in an amount no less than \$1,000,000 for each loss.

(c) A distributor licensee shall maintain the insurance required in subsection (b) of this section from an insurance company that is:

(1) A non-admitted insurer that meets the requirements of Insurance Code section 1765.1 or 1765.2, and the insurance is placed pursuant to Insurance Code section 1763 and through a surplus line broker licensed under Insurance Code section 1765;

(2) An insurer qualified to do business in California by the Secretary of State and authorized by the Insurance Commissioner to write the liability and property classes of insurance as defined by Insurance Code sections 102, 103, 107, 114, 108, and 120; or

(3) A registered risk retention group compliant with the California Risk Retention Act of 1991. (See California Insurance Code sections 125-140.)

(d) Admitted insurers and risk retention groups must show proof of capitalization in the amount of at least \$10,000,000.

(e) A distributor licensee shall notify the Bureau in writing within 10 calendar days of a lapse in insurance.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070 and 26051.5, Business and Professions Code.

§ 5309. Inventory Reconciliation

(a) A licensed distributor shall reconcile all inventories of cannabis goods at least once every 14 calendar days.

(b) A licensed distributor shall keep an inventory log containing the following information for each batch:

(1) The name and license number of the manufacturer or cultivator who provided the batch;

(2) The date of entry into the licensed distributor's storage area;

- (3) The unique identifiers and batch number associated with the batch;
 - (4) A description of the cannabis goods with enough detail to easily identify the batch;
 - (5) The weight of or quantity of units in the batch;
 - (6) The best-by, sell-by, or expiration date of the batch, if any; and
 - (7) Where on the licensed premises the batch is kept.
- (c) If a licensed distributor finds a discrepancy between the inventory of stock and the inventory log or track and trace system that is outside of normal weight loss caused by moisture loss, the licensed distributor shall commence a full audit of the batch in which the discrepancy was found.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070 and 26160, Business and Professions Code.

§ 5310. Records

In addition to the records required by section 5037 of this division, a licensed distributor shall maintain the following records:

- (a) Records relating to branding, packaging and labeling;
- (b) Inventory logs and records;
- (c) Transportation bills of lading and shipping manifests for completed transports and for cannabis goods in transit;
- (d) Vehicle and trailer ownership records;
- (e) Quality-assurance records;
- (f) Records relating to destruction of cannabis goods;
- (g) Laboratory-testing records;
- (h) Warehouse receipts;
- (i) Records relating to tax payments collected and paid under Revenue and Taxation Code sections 34011 and 34012.

Authority: Section 26013, Business and Professions Code. Reference: Section 26160, Business and Professions Code.

§ 5311. Requirements for the Transportation of Cannabis Goods

The following requirements apply when transporting cannabis goods between licensees or licensed premises:

- (a) Transportation shall only be conducted by persons holding a distributor license under the Act, or employees of those persons.

(b) Prior to transporting any cannabis goods, the licensed distributor shall have a completed sales invoice or receipt that meets the requirements of Business and Professions Code section 26161. The licensed distributor shall only transport cannabis goods listed on the sales invoice or receipt. The sales invoice or receipt may not be altered or changed once transport begins.

(c) All vehicles transporting cannabis goods for hire shall be required to have a motor carrier permit pursuant to Chapter 2 (commencing with Section 34620) of Division 14.85 of the Vehicle Code.

(d) Transportation by means of aircraft, watercraft, drone, rail, human powered vehicle, and unmanned vehicle is prohibited.

(e) Cannabis goods shall only be transported inside of a vehicle or trailer and shall not be visible or identifiable from outside of the vehicle or trailer.

(f) Cannabis goods shall be locked in a box, container, or cage that is secured to the inside of the vehicle or trailer. For purposes of this section, the inside of the vehicle includes the trunk.

(g) While left unattended, vehicles and trailers shall be locked and secured.

(h) A licensed distributor shall not leave a vehicle or trailer containing cannabis goods unattended in a residential area or parked overnight in a residential area.

(i) At a minimum, a licensed distributor shall have a vehicle alarm system on all transport vehicles and trailers. Motion detectors, pressure switches, duress, panic, and hold-up alarms may also be used.

(j) Packages or containers holding cannabis goods shall not be tampered with, or opened, during transport.

(k) A licensed distributor transporting cannabis goods shall only travel between licensees shipping or receiving cannabis goods and its own licensed premises when engaged in the transportation of cannabis goods. The licensed distributor may transport multiple shipments of cannabis goods at once in accordance with applicable laws. A licensed distributor shall not deviate from the travel requirements described in this section, except for necessary rest, fuel, or vehicle repair stops.

(l) Under no circumstances may non-cannabis goods, except for cannabis accessories and licensees' branded merchandise or promotional materials be transported with cannabis goods.

(m) Vehicles and trailers transporting cannabis goods are subject to inspection by the Bureau at any licensed premises or during transport at any time.

(n) Notwithstanding subsections (d) and (e) of this section, if it is not operationally feasible to transport cannabis goods inside of a vehicle or trailer because the licensed premises that the cannabis goods will be transported from and the licensed premises that will be receiving the cannabis goods are located within the same building or on the same parcel of land, the cannabis goods may be transported by foot, hand truck, fork lift, or other similar means. A shipping manifest that complies with this division is required when transporting cannabis goods pursuant to this subsection.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5312. Required Transport Vehicle Information

(a) In addition to the information required in section 5314 of this division, any licensed distributor who will be or is transporting cannabis goods shall provide the following information to the Bureau:

(1) Proof that the licensed distributor owns or holds a valid lease for each vehicle and trailer used to transport cannabis goods;

(2) The year, make, model, license plate number, and numerical Vehicle Identification Number (VIN) for each vehicle and trailer used to transport cannabis goods; and

(3) Proof of insurance for each vehicle and trailer used to transport cannabis goods.

(b) The licensed distributor shall provide the Bureau with the information required by this section in writing for any new vehicle or trailer that will be used to transport cannabis goods prior to using the vehicle or trailer to transport cannabis goods.

(c) The licensed distributor shall provide the Bureau with any changes to the information required by this section in writing within 30 calendar days.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5313. Transport Personnel Requirements

(a) No person under the age of 21 years old shall be in a commercial vehicle or trailer transporting cannabis goods; and

(b) Only a licensee, an employee of the licensed distributor, or security personnel that meets the requirements of section 5045 of this division, shall be in a vehicle while transporting cannabis goods.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5314. Shipping Manifest

(a) Prior to transporting cannabis goods, a licensed distributor shall generate a shipping manifest through the track and trace system for the following activities:

(1) Testing and sampling;

(2) Sale of cannabis goods to a licensee;

(3) Destruction or disposal of cannabis goods; and

(4) Any other activity, as required pursuant to this division, or by any other licensing authority.

(b) The licensed distributor shall transmit the shipping manifest to the Bureau and the licensee that will receive the cannabis goods prior to transporting the cannabis goods.

(c) The licensed distributor shall ensure and verify that the cannabis goods being taken into possession for transport at the originating licensed premises are as described and accurately reflected in the shipping manifest. For purposes of this section, the licensed distributor may verify that the cannabis goods are accurately reflected in the shipping manifest by confirming that the number of boxes of cannabis goods, type of cannabis goods, weight and or units of cannabis goods, matches the label on the boxes containing the cannabis goods.

(1) The licensed distributor shall not take into possession or transport:

(A) Any cannabis goods that are not on the shipping manifest; or

(B) Any cannabis goods that are less than or greater than the amount reflected on the shipping manifest.

(2) The licensed distributor is responsible for any discrepancies between the shipping manifest and the cannabis goods in its possession during transport, and subject to any enforcement or disciplinary action related to such discrepancy.

(3) A licensed distributor shall not void or change a shipping manifest after departing from the originating licensed premises.

(d) A shipping manifest shall accompany every transport of cannabis goods.

(e) Notwithstanding subsection (a) of this section, if a transporting licensed distributor has not obtained access to the track and trace system, the licensed distributor shall complete the shipping manifest outside of the track and trace system and transmit it to the Bureau and the licensee receiving the shipment by electronic mail.

(f) If the transporting licensed distributor has access to the track and trace system and the licensee receiving the shipment has not obtained access to the track and trace system, the licensed distributor shall complete the shipping manifest in the track and trace system and transmit it to the Bureau. However, the licensed distributor shall send a copy to the licensee receiving the shipment by electronic mail.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26067 and 26070, Business and Professions Code

§ 5315. Distributor Transport Only License

(a) A licensed distributor transport only licensee may transport cannabis goods between licensees; however, they shall not transport any cannabis goods except for immature cannabis plants and seeds to a licensed retailer or licensed microbusiness.

(b) A complete application for a distributor transport only license shall include all the information required in an application for a distributor license.

(c) The licensing fee for a distributor transport only license will be based in part upon whether the licensee intends to transport only cannabis goods that the licensee has cultivated or manufactured (self-distribution), or whether the licensee intends to transport cannabis goods cultivated or manufactured by other licensees.

(d) A distributor transport only licensee shall comply with all of the requirements for a holder of a distributor license, except for those related to quality assurance and testing.

(e) A distributor transport only licensee shall not hold title to any cannabis goods unless the licensee also holds a state-issued cultivation, manufacturing, retailer, or microbusiness license.

(f) Holding a distributor transport only license shall not authorize a licensee to:

(1) Engage in the delivery of cannabis goods as defined in Business and Professions Code section 26001(p);

(2) Engage in the wholesale, destruction, packaging, labeling, or storing of cannabis goods; or

(3) Arrange for the testing of cannabis goods by a testing laboratory.

(g) Notwithstanding subsection (e) of this section, a distributor transport only licensee who is licensed to engage in self-distribution and whose licensed premises will be on the same property as their licensed cultivation or manufacturing premises shall not be required to comply with the security provisions contained in Article 5 of this division.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012 and 26070, Business and Professions Code.

Chapter 3. RETAILERS

§ 5400. Access to Retailer Premises

(a) Access to the licensed premises of a retailer with only an A-designation shall be limited to individuals who are at least 21 years of age.

(b) Access to a licensed premises with only an M-designation shall be limited to individuals who are at least 18 years of age and have a valid physician's recommendation for medicinal cannabis.

(c) Access to a licensed premises with both an A-designation and an M-designation may include persons identified in subsections (a) and (b) of this section.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070 and 26140, Business and Professions Code.

§ 5401. [reserved]

§ 5402. Customer Access to the Retail Area

(a) Individuals shall be granted access to the retail area to purchase cannabis goods only after the licensed retailer or an employee of the licensed retailer has confirmed the individual's age and identity pursuant to section 5404 of this division.

(b) The licensed retailer or at least one employee shall be physically present in the retail area at all times when individuals who are not employees of the licensed retailer are in the retail area.

(c) All sales of cannabis goods, with the exception of cannabis goods sold through delivery, must take place within the retail area of the retailer's licensed premises.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070 and 26140, Business and Professions Code.

§ 5403. Hours of Operation

A licensed retailer shall sell and deliver cannabis goods only between the hours of 6:00 a.m. Pacific Time and 10:00 p.m. Pacific Time.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code

§ 5403.1 Requirements While Not Open for Business

At any time the licensed premises is not open for retail sales, a licensed retailer shall ensure that:

(a) The licensed premises is securely locked with commercial-grade, nonresidential door locks as defined in section 5046 of this division;

(b) The licensed premises is equipped with an active alarm system pursuant to section 5047 of this division, which shall be activated when the licensed retailer or its employees are not on the licensed premises; and

(c) Only employees of the licensee and other authorized individuals are allowed access to the licensed premises. For the purposes of this section, authorized individuals include individuals employed by the licensee as well as any outside vendors, contractors, or other individuals conducting business that requires access to the licensed premises.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code

§ 5404. Retail Customers

(a) A licensed retailer shall only sell adult-use cannabis goods to individuals who are at least 21 years of age after confirming the customer's age and identity by inspecting a valid form of identification provided by the customer as required by subsection (c) of this section.

(b) A licensed retailer shall only sell medicinal cannabis goods to individuals who are at least 18 years of age and possesses a valid physician's recommendation after confirming the customer's age, identity, and physician's recommendation as required by subsection (c) of this section.

(c) Acceptable forms of identification include the following:

- (1) A document issued by a federal, state, county, or municipal government, or a political subdivision or agency thereof, including, but not limited to, a valid motor vehicle operator's license, that contains the name, date of birth, height, gender, and photo of the person;
- (2) A valid identification card issued to a member of the Armed Forces that includes the person's name, date of birth, and photo; or
- (3) A valid passport issued by the United States or by a foreign government.

Authority: Section 26013, Business and Professions Code. Reference: Section 26140, Business and Professions Code.

§ 5405. Cannabis Goods Display

- (a) Cannabis goods for inspection and sale shall only be displayed in the retail area.
- (b) Cannabis goods may be removed from their packaging and placed in containers to allow for customer inspection. The containers shall not be readily accessible to customers without assistance of retailer personnel. A container must be provided to the customer by the licensed retailer or its employees, who shall remain with the customer at all times that the container is being inspected by the customer.
- (c) Cannabis goods removed from their packaging for display shall not be sold, shall not be consumed, and shall be destroyed pursuant to section 5054 of this division when the cannabis goods are no longer used for display.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code

§ 5406. Cannabis Goods for Sale

A licensed retailer shall not make any cannabis goods available for sale or delivery to a customer unless:

- (a) The cannabis goods were received by the retail licensee from a licensed distributor or licensed microbusiness;
- (b) The licensed retailer has verified that the cannabis goods have not exceeded their expiration or sell-by date if one is provided;
- (c) In the case of manufactured cannabis products, the product complies with all requirements of Business and Professions Code section 26130 and California Code of Regulations, Title 3, Division 8 and Title 17, Division 1, Chapter 13;
- (d) The cannabis goods have undergone laboratory testing as required by the Act and Chapter 6 of this division;
- (e) The packaging and labeling of the cannabis goods complies with Business and Professions Code Section 26120 and all applicable regulations within this division as well as California Code of Regulations, Title 3, Division 8 and Title 17, Division 1, Chapter 13; and

(f) The cannabis goods comply with all applicable requirements found in the Act and applicable regulations.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070 and 26120, Business and Professions Code.

§ 5407. Sale of Non-Cannabis Goods on Premises

In addition to cannabis goods, a licensed retailer may sell only cannabis accessories and any licensee's branded merchandise or promotional materials.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5408. Sale of Live Plants and Seeds

(a) A licensed retailer shall only sell live, immature cannabis plants and cannabis seeds if all of the following requirements are met:

(1) The plant is not flowering;

(2) The plant or seed originated from a nursery that holds a valid license from the Department of Food and Agriculture or a licensed microbusiness; and

(3) A label is affixed to the plant or package containing any seeds which states "This product has not been tested pursuant to the Medicinal and Adult-Use Cannabis Regulation and Safety Act."

(b) A licensed retailer may not sell any other live plants.

(c) A licensed retailer shall not apply nor use any pesticide, nor cause any pesticide to be applied nor used, on live plants.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070 and 26100, Business and Professions Code

§ 5409. Daily Limits

(a) A licensed retailer shall not sell more than the following amounts to a single adult-use cannabis customer in a single day:

(1) 28.5 grams of non-concentrated cannabis.

(2) 8 grams of concentrated cannabis as defined in Business and Professions Code section 26001, including concentrated cannabis contained in cannabis products.

(3) 6 immature cannabis plants.

(b) A licensed retailer shall not sell more than the following amounts to a single medicinal cannabis patient, or to a patient's primary caregiver purchasing medicinal cannabis on behalf of the patient, in a single day:

(1) 8 ounces of medicinal cannabis in the form of dried mature flowers or the plant conversion as provided in Health and Safety Code section 11362.77.

(2) 12 immature cannabis plants.

(c) Notwithstanding subsection (b) of this section, if a medicinal cannabis patient's valid physician's recommendation contains a different amount than the limits listed in this section, the medicinal cannabis patient may purchase an amount of medicinal cannabis consistent with the patient's needs as recommended by a physician and documented in the physician's recommendation.

(d) The limits provided in subsection (a) and subsection (b) of this section shall not be combined to allow a customer to purchase cannabis goods in excess of any of the limits provided in this section.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012, Business and Professions Code; and Sections 11362.1 and 11362.77, Health and Safety Code.

§ 5410. Customer Return of Cannabis Goods

(a) For the purposes of this section, "customer return" means a customer's return of cannabis goods that were purchased from a licensed retailer, back to the licensed retailer the cannabis goods were purchased from.

(b) A licensed retailer may accept customer returns of cannabis goods that were previously sold to a customer.

(c) A licensed retailer shall not resell cannabis goods that have been returned.

(d) A licensed retailer shall treat any cannabis goods abandoned on the licensed retailer premises as a customer return.

(e) A licensed retailer shall destroy all cannabis goods that have been returned to the licensed retailer by a customer, in accordance with sections 5054 and 5055 of this division.

Authority: Section 26013, Business and Professions Code. Reference: Section 26011.5, 26012, and 26070, Business and Professions Code

§ 5411. Free Cannabis Goods

(a) A licensed retailer shall not provide free cannabis goods to any person. A licensed retailer shall not allow individuals who are not employed by the licensed retailer to provide free cannabis goods to any person on the licensed premises.

(b) Notwithstanding subsection (a) of this section, in order to provide access to medicinal cannabis patients who have difficulty accessing medicinal cannabis goods, a licensee who holds an M-Retailer license, an M-Retailer Non-storefront license, or an M-Microbusiness license that is authorized for retail sales may provide free medicinal cannabis goods if all of the following criteria are met:

(1) Free cannabis goods are provided only to a medicinal cannabis patient or primary caregiver for the patient in possession identification card issued under Section 11362.71 of the Health and Safety Code.

(2) The cannabis goods comply with all applicable laboratory testing requirements under this division.

(3) Prior to being provided to the patient or primary caregiver, the cannabis goods have been properly recorded in the track and trace system as belonging to the licensed retailer.

(4) The cannabis goods shall not leave the licensed premises unless placed in a resealable child-resistant opaque package as required for purchased cannabis goods under Business and Professions Code section 26070.1.

(5) The cannabis goods shall be applied toward the daily purchase limit for a medicinal cannabis customer pursuant to section 5409 of this division.

(6) The event shall be properly recorded in the licensed retailer's inventory records and the track and trace system.

(c) In addition to the provision of free cannabis goods in subsection (b) of this section, a licensee may donate cannabis goods and the use of equipment in compliance with any compassionate use, equality, or other similar program administered by a local jurisdiction. The licensee shall ensure that all cannabis goods provided pursuant to this subsection comply with subsections (b)(2) and (b)(6) of this section.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26013, 26153 and 26160, Business and Professions Code.

§ 5412. Prohibition on Packaging and Labeling by a Retailer

(a) A licensed retailer shall not accept, possess, or sell cannabis goods that are not packaged as they will be sold at final sale, in compliance with this division.

(b) A licensed retailer shall not package or label cannabis goods.

(c) A licensed retailer who also holds a distribution, manufacturing, or cultivation license may package and label cannabis goods as allowed by the distribution, manufacturing, or cultivation license at their licensed distribution, manufacturing, or cultivation premises.

Authority: Section 26013, Business and Professions Code. Reference: Section 26120, Business and Professions Code

§ 5413. Exit Packaging

Cannabis goods purchased by a customer shall not leave the licensed retailer's premises unless the goods are placed in a resealable child-resistant opaque exit package.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070.1 and 26120, Business and Professions Code.

§ 5414. Non-Storefront Retailer

- (a) A non-storefront retailer licensee shall be authorized to conduct retail cannabis sales exclusively by delivery as defined in Business and Professions Code section 26001(p).
- (b) A complete application for a non-storefront retailer license shall include all the information required in an application for a retailer license.
- (c) A Non-Storefront Retailer licensee shall comply with all the requirements applicable to retailer licensees, except for those provisions related to public access to the licensed premises and the retail area.
- (d) The licensed premises of a non-storefront retailer licensee shall be closed to the public.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012 and 26070, Business and Professions Code.

§ 5415. Delivery Employees

- (a) All deliveries of cannabis goods shall be performed by a delivery employee that is directly employed by a licensed retailer.
- (b) Each delivery employee of a licensed retailer shall be at least 21 years of age.
- (c) All deliveries of cannabis goods shall be made in person. A delivery of cannabis goods shall not be made through the use of an unmanned vehicle.
- (d) The process of delivery begins when the delivery employee leaves the retailer's licensed premises with the cannabis goods for delivery. The process of delivering ends when the delivery employee returns to the retailer's licensed premises after delivering the cannabis goods to the customer(s). During the process of delivery, the retailer's delivery employee may not engage in any activities except for cannabis goods delivery and necessary rest, fuel, or vehicle repair stops.
- (e) A delivery employee of a licensed retailer shall, during deliveries, carry a copy of the retailer's current license, the employee's government-issued identification, and an identification badge provided by the employer pursuant to section 5043 of this division.
- (f) Prior to providing cannabis goods to a delivery customer, a delivery employee shall confirm the identity and age of the delivery customer as required by section 5404 of this division, and place the cannabis goods in a resealable child-resistant opaque exit package.
- (g) A licensed retailer shall maintain an accurate list of the retailer's delivery employees and shall provide the list to the Bureau upon request.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070 and 26090, Business and Professions Code.

§ 5416. Delivery to a Physical Address

- (a) A delivery employee may only deliver cannabis goods to a physical address in California.

- (b) A delivery employee shall not leave the State of California while possessing cannabis goods.
- (c) A delivery employee shall not deliver cannabis goods to an address located on publicly owned land or any address on land or in a building leased by a public agency. This prohibition applies to land held in trust by the United States for a tribe or an individual tribal member unless the delivery is authorized by and consistent with applicable tribal law.
- (d) A delivery employee may deliver to any jurisdiction within the State of California.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070 and 26090, Business and Professions Code.

§ 5417. Delivery Vehicle Requirements

- (a) A retailer's delivery employee, carrying cannabis goods for delivery, shall only travel in an enclosed motor vehicle. Any vehicle used in the delivery of cannabis goods shall be operated by a delivery employee of the licensee. Only the licensee or an employee of the retailer licensee for whom delivery is being performed shall be in the delivery vehicle.
- (b) While carrying cannabis goods for delivery, a retailer's delivery employee shall ensure the cannabis goods are not visible to the public. Cannabis goods shall be locked in a box, container, or cage that is secured on the inside of the vehicle. For purposes of this section, the inside of the vehicle includes the trunk.
- (c) A retailer's delivery employee shall not leave cannabis goods in an unattended motor vehicle unless the motor vehicle is locked and equipped with an active vehicle alarm system.
- (d) A vehicle used for the delivery of cannabis goods shall be outfitted with a dedicated Global Positioning System (GPS) device for identifying the geographic location of the delivery vehicle. A dedicated GPS device must be owned by the licensee and used for delivery only. The device shall be either permanently or temporarily affixed to the delivery vehicle and shall remain active and inside of the delivery vehicle at all times during delivery. At all times, the licensed retailer shall be able to identify the geographic location of all delivery vehicles that are making deliveries for the licensed retailer and shall provide that information to the Bureau upon request.
- (e) Upon request, a licensed retailer shall provide the Bureau with information regarding any motor vehicle used for the delivery of cannabis goods, including the vehicle's make, model, color, Vehicle Identification Number, license plate number and Department of Motor Vehicles registration information.
- (f) Any motor vehicle used by a licensed retailer to deliver cannabis goods is subject to inspection by the Bureau. Vehicles used to deliver cannabis goods may be stopped and inspected by the Bureau at any licensed premises or during delivery.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070 and 26090, Business and Professions Code.

§ 5418. Cannabis Goods Carried During Delivery

- (a) A retailer's delivery employee shall not carry cannabis goods in the delivery vehicle in excess of \$10,000 at any time. The value of cannabis goods shall be determined using the current retail

price of all cannabis goods carried by, or within the delivery vehicle of, the retailer's delivery employee.

(b) A delivery employee may only carry cannabis goods in the delivery vehicle and may only perform deliveries for one licensed retailer at a time. A delivery employee must depart and return to the same licensed premises before taking possession of any cannabis goods from another licensee to perform deliveries.

(c) A retailer's delivery employee shall not leave the licensed premises with cannabis goods without at least one delivery order that has already been received and processed by the licensed retailer.

(d) Before leaving the licensed premises, the retailer's delivery driver must have a delivery inventory ledger of all cannabis goods provided to the retailer's delivery driver. For each cannabis good, the delivery inventory ledger shall include the type of good, the brand, the retail value, the track and trace identifier, and the weight, volume or other accurate measure of the cannabis good. After each customer delivery, the delivery inventory ledger must be updated to reflect the current inventory in possession of the retailer's delivery driver.

(e) The retailer's delivery driver shall maintain a log that includes all stops from the time the retailer's delivery driver leaves the licensed premises to the time that the retailer's delivery driver returns to the licensed premises, and the reason for each stop. The log shall be turned in to the retailer when the retailer's delivery driver returns to the licensed premises. The licensed retailer must maintain the log as a commercial cannabis activity record as required by this division.

(f) Prior to arrival at any delivery location, the licensed retailer must have received a delivery request from the customer and provided the delivery request receipt to the retailer's delivery driver electronically or in hard copy. The delivery request receipt provided to the retailer's delivery driver shall contain all of the information required in section 5420 of this division, except for the date and time the delivery was made, and the signature of the customer.

(g) Immediately upon request by the Bureau or any law enforcement officer, the retailer's delivery driver shall provide:

(1) All delivery inventory ledgers from the time the retailer's delivery driver left the licensed premises up to the time of the request;

(2) All delivery request receipts for cannabis goods carried by the driver, in the delivery vehicle, or any deliveries that have already been made to customers; and

(3) The log of all stops from the time the retailer's delivery driver left the licensed premises up to the time of the request.

(h) If a retailer's delivery driver does not have any delivery requests to be performed for a 30-minute period, the retailer's delivery driver shall not make any additional deliveries and shall return to the licensed premises. Required meal breaks shall not count toward the 30-minute period.

(i) Upon returning to the licensed premises, all undelivered cannabis goods shall be returned to inventory and all necessary inventory and track-and-trace records shall be updated as appropriate that same day.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070 and 26090, Business and Professions Code.

§ 5419. Cannabis Consumption During Delivery

A retailer's delivery employees shall not consume cannabis goods while delivering cannabis goods to customers.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070 and 26090, Business and Professions Code.

§ 5420. Delivery Request Receipt

A licensed retailer shall prepare a hard copy or electronic delivery request receipt for each delivery of cannabis goods.

(a) The delivery request receipt shall contain the following:

(1) The name and address of the licensed retailer;

(2) The first name and employee number of the retailer's delivery employee who delivered the order;

(3) The first name and employee number of the retailer's employee who prepared the order for delivery;

(4) The first name of the customer and a retailer-assigned customer number for the person who requested the delivery;

(5) The date and time the delivery request was made;

(6) The delivery address;

(7) A detailed description of all cannabis goods requested for delivery. The description shall include the weight, volume, or any other accurate measure of the amount of all cannabis goods requested;

(8) The total amount paid for the delivery, including any taxes or fees, the cost of the cannabis goods, and any other charges related to the delivery; and

(9) Upon delivery, the date and time the delivery was made, and the handwritten or electronic signature of the customer who received the delivery.

(b) At the time of the delivery, the delivery employee of the retailer shall provide the customer who placed the order with a hard or electronic copy of the delivery request receipt. The delivery employee shall retain a hard or electronic copy of the signed delivery request receipt for the licensed retailer's records.

(c) For the purposes of this section, an employee number is a distinct number assigned by a licensed retailer to their employees that would allow the licensed retailer to identify the employee on documents or records using the employee number rather than the employee's full name. A licensed retailer shall be able to identify the employee associated with each employee number upon request from the Bureau.

(d) For the purposes of this section, a customer number is a distinct number assigned by a licensed retailer to a customer that would allow the licensed retailer to identify the customer in documents or records using the customer number rather than the customer's full name. A licensed retailer shall be able to identify the customer associated with each customer number upon request from the Bureau.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070, 26090, and 26160, Business and Professions Code.

§ 5421. Delivery Route

While making deliveries of cannabis goods, a retailer's delivery employee shall only travel from the retailer's licensed premises to the delivery address; from one delivery address to another delivery address; or from a delivery address back to the retailer's licensed premises. A delivery employee of a retailer shall not deviate from the delivery path described in this section, except for necessary rest, fuel, or vehicle repair stops, or because road conditions make continued use of the route unsafe, impossible, or impracticable.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26070 and 26090, Business and Professions Code.

§ 5422. Receiving Shipments of Inventory

(a) A licensed retailer shall receive a shipment of cannabis goods only from a licensed distributor or licensed microbusiness.

(b) A licensed retailer shall accept shipments of cannabis goods only between the hours of 6:00 a.m. Pacific Time and 10:00 p.m. Pacific Time.

(c) During business hours, shipments of cannabis goods shall not enter the licensed premises through an entrance or exit that is available for use by the public.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

§ 5423. Inventory Documentation

A licensed retailer shall maintain an accurate record of its inventory. A licensed retailer shall provide the Bureau with the record of inventory immediately upon request. A licensed retailer shall keep a record of the following information for all cannabis goods the licensed retailer has in its inventory:

- (a) A description of each item such that the cannabis goods can easily be identified;
- (b) An accurate measurement of the quantity of the item;
- (c) The date and time the cannabis goods were received by the licensed retailer;
- (d) The sell-by or expiration date provided on the package of cannabis goods, if any;
- (e) The name and license number of the licensed distributor or licensed microbusiness that transported the cannabis goods to the licensed retailer; and
- (f) The price the licensed retailer paid for the cannabis goods, including taxes, delivery costs, and any other costs.

Authority: Section 26013, Business and Professions Code. Reference: Section 26160, Business and Professions Code.

§ 5424. Inventory Reconciliation

- (a) A licensed retailer shall perform a reconciliation of its inventory at least once every 14 calendar days.
- (b) In conducting an inventory reconciliation, a licensed retailer shall verify that the licensed retailer's physical inventory is consistent with the licensed retailer's records pertaining to inventory.
- (c) The result of inventory reconciliation shall be retained in the licensed retailer's records and shall be made available to the Bureau upon request.
- (d) If a licensed retailer identifies any evidence of theft, diversion, or loss, the licensed retailer shall notify the Bureau and law enforcement pursuant to section 5036 of this division.
- (e) If a significant discrepancy as defined in section 5034 of this division is discovered between a licensed retailer's physical inventory and the licensed retailer's inventory records, the licensed retailer shall notify the Bureau and law enforcement pursuant to section 5036 of this division.

Authority: Section 26013, Business and Professions Code. Reference: Section 26160, Business and Professions Code.

§ 5425. Record of Sales

- (a) A licensed retailer shall maintain an accurate record of sale for every sale made to a customer.
- (b) A record of cannabis goods sold to a customer shall contain the following information:
 - (1) The first name and employee number of the retailer employee who processed the sale;
 - (2) The first name and the retailer-assigned customer number for the customer who made the purchase;
 - (3) The date and time of the transaction;

- (4) A list of all the cannabis goods purchased, including the quantity purchased; and
- (5) The total amount paid for the sale including the individual prices paid for each cannabis good purchased and any amounts paid for taxes.

(c) For the purposes of this section, an employee number is a distinct number assigned by a licensed retailer to their employees that would allow the licensed retailer to identify the employee on documents or records using the employee number rather than the employee's full name. A licensed retailer shall be able to identify the employee associated with each employee number upon request from the Bureau.

(d) For the purposes of this section, a customer number is a distinct number assigned by a licensed retailer to a customer that would allow the licensed retailer to identify the customer in documents or records using the customer number rather than the customer's full name. A licensed retailer shall be able to identify the customer associated with each customer number upon request from the Bureau.

Authority: Section 26013, Business and Professions Code. Reference: Section 26160, Business and Professions Code.

§ 5426. Records

All licensed retailer-specific records in this chapter shall be maintained in accordance with section 5037 of this division.

Authority: Section 26013, Business and Professions Code. Reference: Section 26160, Business and Professions Code.

§ 5427. Retailer Premises to Retailer Premises Transfer

(a) A licensee who holds multiple retail licenses may arrange for the transfer of cannabis goods from one licensed retail premises to another licensed retail premises if both retail licenses are held under the same ownership.

(b) Cannabis goods transferred to a licensed retail premises under subsection (a) of this section may be sold by the licensed retailer receiving the cannabis goods only if the cannabis goods comply with all requirements found in the Act and this division.

(c) The transportation of cannabis goods under this section must comply with all requirements found within the Act and this division.

(d) Any movement of cannabis goods under this section shall be properly entered into the state track and trace system.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070, Business and Professions Code.

Chapter 4. MICROBUSINESS

§ 5500. Microbusiness

(a) In order to hold a microbusiness license, a licensee must engage in at least three (3) of the following commercial cannabis activities: cultivation, manufacturing, distribution, and retail sale. License types created by the California Department of Food and Agriculture or the State Department of Public Health in regulation shall not be considered qualifying commercial cannabis activities for purposes of obtaining a microbusiness license.

(b) An applicant for a microbusiness license shall indicate on the application for licensure which commercial cannabis activities the applicant intends to engage in.

(c) An application for a microbusiness license shall include:

(1) For an application indicating that the applicant intends to engage in cultivation under the microbusiness license all the required information under sections 5002, 5501, 5502 and 5503 of this division.

(2) For an application indicating that the applicant intends to engage in manufacturing under the microbusiness license all the required information under sections 5002 and 5504 of this division.

(3) For an application indicating that the applicant intends to engage in distribution under the microbusiness license all the required information for an application seeking a distributor license.

(4) For an application indicating that the applicant intends to engage in distribution, transport-only under the microbusiness license, all the required information for an application seeking a distributor, transport-only license.

(5) For an application indicating that the applicant intends to engage in retail sale under the microbusiness license, all the required information for an application seeking a retailer license.

(6) For an application indicating that the applicant intends to engage in non-storefront retail sale under the microbusiness license, all the required information for an application seeking a non-storefront retailer license.

(d) All cultivation, manufacturing, distribution, and retail activities performed by a licensee under a microbusiness license shall occur on the same licensed premises.

(e) A holder of a microbusiness license shall comply with the following:

(1) A holder of a microbusiness license engaged in cultivation shall comply with all the rules and requirements applicable to the cultivation license type suitable for the cultivation activities of the licensee.

(2) A holder of a microbusiness license engaged in manufacturing shall comply with all the rules and requirements applicable to a Manufacturer 1 license in Division 1 of Title 17 of the California Code of Regulations.

(3) A holder of a microbusiness license engaged in distribution shall comply with all the rules and requirements applicable to a distributor license in this division.

(4) A holder of a microbusiness license engaged in retail sale shall comply with all the rules and requirements applicable to a retailer license, or a non-storefront retailer license if retail sales are conducted by delivery only in this division.

(f) A holder of a microbusiness license may only engage in the commercial cannabis activity requested in the license application and approved by the Bureau at the time the license is issued. If the holder of a microbusiness license wants to engage in an additional commercial cannabis activity after the license is issued, the licensee shall submit a request for a modification of the licensed premises pursuant to section 5027 of this division.

(g) A holder of a microbusiness license shall comply with all the security rules and requirements applicable to the corresponding license type suitable for the activities of the licensee.

(h) Areas of the licensed premises for manufacturing and cultivation shall be separated from the distribution and retail areas by a wall and all doors between the areas shall remain closed when not in use.

(i) A suspension or revocation of a microbusiness licensee shall affect all commercial cannabis activities allowed pursuant to that license.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012 and 26070, Business and Professions Code.

§ 5501. Microbusiness Applications Including Cultivation Activities

In addition to the information required in section 5002 of this division, an application for a microbusiness license to engage in cultivation shall include the following:

(a) Evidence of enrollment with the applicable Regional Water Quality Control Board or State Water Resources Control Board for water quality protection programs or written verification from the appropriate Board that enrollment is not necessary.

(b) Evidence that the applicant has conducted a hazardous materials record search of the EnviroStor database for the proposed premises. If hazardous sites were encountered, the applicant shall provide documentation of protocols implemented to protect employee health and safety.

(c) For indoor and mixed-light cultivation, identification of all power sources for cultivation activities, including, but not limited to: illumination, heating, cooling, and ventilation.

(d) A premises diagram pursuant to section 5006 of this division that shall also include:

(1) All roads and water crossings on the property.

(2) If the applicant is proposing to use a diversion from a waterbody, groundwater well, or rain catchment system as a water source for cultivation, the following locations on the property diagram with locations also provided as coordinates in either latitude and longitude or the California Coordinate System:

(A) Sources of water used, including the location of waterbody diversion(s), pump location(s), and distribution system; and

(B) Location, type, and capacity of each storage unit to be used for cultivation.

(e) A proposed cultivation plan pursuant to section 5502 of this division.

(f) Identification of all water sources used for cultivation activities and the applicable supplemental information for each source as required by section 5503 of this division:

(1) A retail water supplier;

(2) A groundwater well;

(3) A rainwater catchment system; or

(4) A diversion from a surface waterbody or an underground stream flowing in a known and definite channel.

(g) A copy of any final lake or streambed alteration agreement issued by the California Department of Fish and Wildlife, pursuant to Fish and Game Code sections 1602 and 1617, or written verification from the California Department of Fish and Wildlife that a lake and streambed alteration agreement is not required.

(h) An attestation that the applicant entity is an "agricultural employer" as defined by the Alatorre-Zenovich-Dunlap-Berman Agricultural Labor Relations Act of 1975; Division 2, Part 3.5 (commencing with Section 1140) of the Labor Code.

(i) An attestation that the local fire department has been notified of the cultivation site if the applicant entity is an indoor license type.

(j) An acknowledgement that the applicant understands that the information provided in the application that is relevant to the cultivation operation may be shared with the Department of Food and Agriculture for purposes of evaluating the applicant's qualifications for licensure. If the Department of Food and Agriculture corresponds directly with the applicant on matters related to the application, the applicant shall agree to cooperate. The applicant shall further agree that the Department of Food and Agriculture may conduct inspections on the areas of the premises related to their respective oversight authority.

(k) If applicable, a detailed description of any fines or penalties for cultivation or production of a controlled substance on public or private land pursuant to Fish and Game Code section 12025 or 12025.1 against the applicant or a business entity in which the applicant was an owner or officer within 3 years preceding the date of application.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26050, 26051.5 and 26070, Business and Professions Code.

§ 5502. Cultivation Plan Requirements

A cultivation plan shall include all of the following:

(a) A detailed premises diagram showing all cultivation activity areas, boundaries, and dimensions in feet. The total area of the following cultivation activity areas shall be less than 10,000 square feet as provided in Business and Professions Code section 26070.

(1) Canopy area(s) (which shall contain mature plants, at any point in time), including aggregate square footage if the canopy areas are noncontiguous;

(2) Area(s) outside of the canopy where only immature plants shall be maintained, if applicable;

(3) Designated pesticide and other agricultural chemical storage area(s);

(4) Designated processing area(s) if the licensee will process on site;

(5) Designated packaging area(s) if the licensee will package products on site;

(6) Designated composting area(s) if the licensee will compost plant or cannabis waste on site;

(7) Designated secured area(s) for cannabis waste if different than subsection (a)(6) of this section;

(8) Designated area(s) for harvested cannabis storage;

(9) Designated research and development area(s) which may contain mature plants for nursery only;

(10) Designated seed production area(s) which may contain mature plants for nursery only; and

(b) For purposes of subsection(a)(1) in this section, canopy shall be calculated in square feet and measured using clearly identifiable boundaries of all areas(s) that will contain mature plants at any point in time, including all of the space(s) within the boundaries. Canopy may be noncontiguous, but each unique area included in the total canopy calculation shall be separated by an identifiable boundary which include, but are not limited to: interior walls, shelves, greenhouse walls, hoop house walls, garden benches, hedgerows, fencing, garden beds, or garden plots. If mature plants are being cultivated using a shelving system, the surface area of each level shall be included in the total canopy calculation.

(c) For indoor and mixed-light cultivation, a lighting diagram with the following information shall be included:

(1) Location of all lights in the canopy area(s); and

(2) Maximum wattage, or wattage equivalent, of each light.

(d) A pest management plan which shall include, but not be limited to, the following:

(1) Product name and active ingredient(s) of all pesticides to be applied to cannabis during any stage of plant growth; and

(2) Integrated pest management protocols including chemical, biological and cultural methods the applicant anticipates using to control or prevent the introduction of pests on the cultivation site.

(e) Cannabis waste procedures meeting the requirements of section 5002(c)(29)(E) of this division.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26050, 26051.5 and 26070, Business and Professions Code.

§ 5503. Supplemental Water Source Information

The following information shall be provided for each water source identified by the applicant:

(a) Retail water supply sources:

(1) If the water source is a retail water supplier, as defined in Water Code section 13575, identify the retail water supplier.

(2) If the water source is a small retail water supplier, such as a delivery service, and is subject to Business and Professions Code section 26060.1(a)(1)(B):

(A) If the retail water supplier contract is for delivery or pickup of water from a surface water body or an underground stream flowing in a known and definite channel, provide all of the following:

(i) The name of the retail water supplier under the contract;

(ii) The geographic location coordinates in either latitude and longitude or the California Coordinate System of any point of diversion used by the retail water supplier to divert water delivered to the applicant under the contract;

(iii) The authorized place of use of any water right used by the retail water supplier to divert water delivered to the applicant under the contract; and

(iv) The maximum amount of water delivered to the applicant for cannabis cultivation in any year.

(B) If the retail water supplier contract is for delivery or pickup of water from a groundwater well, provide all of the following:

(i) The name of the retail water supplier;

(ii) The geographic location coordinates for any groundwater well used to supply water delivered to the applicant, in either latitude and longitude or the California Coordinate System;

(iii) The maximum amount of water delivered to the applicant for cannabis cultivation in any year; and

(iv) A copy of the well log filed with the Department of Water Resources pursuant to Water Code section 13751 for each percolating groundwater well used to divert water delivered to the applicant. If no well log is available, the applicant shall provide evidence from the Department of Water Resources indicating that the Department of Water Resources does not have a record of the well log. When no well log is available, the State Water Resources Control Board may request additional information about the well.

(b) If the water source is a groundwater well:

(1) The groundwater well's geographic location coordinates in either latitude and longitude or the California Coordinate System; and

(2) A copy of the well log filed with the Department of Water Resources pursuant to Water Code section 13751. If no well log is available, the applicant shall provide evidence from the Department of Water Resources indicating that the Department of Water Resources does not have a record of the well log. If no well log is available, the State Water Resources Control Board may request additional information about the well.

(c) If the water source is a rainwater catchment system:

(1) The total square footage of the catchment footprint area(s);

(2) The total storage capacity, in gallons, of the catchment system(s); and

(3) A detailed description of the type, nature, and location of each catchment surface. Examples of catchment surfaces include a rooftop and greenhouse.

(d) If the water source is a diversion from a waterbody, provide any applicable statement, application, permit, license, or small irrigation use registration identification number(s); and either:

(1) A copy of any applicable registrations, permits, or licenses or proof of a pending application, issued under Part 2 (commencing with Section 1200) of Division 2 of the Water Code as evidence of approval of a water diversion by the State Water Resources Control Board;

(2) A copy of any statements of diversion and use filed with the State Water Resources Control Board before October 31, 2017, detailing the water diversion and use; or

(3) A copy of documentation submitted to the State Water Resources Control Board before October 31, 2017, demonstrating that the diversion is authorized under a riparian right and that no diversion occurred in any calendar year between January 1, 2010, and January 1, 2017.

(4) If the applicant has claimed an exception from the requirement to file a statement of diversion and use; pursuant to Water Code section 5101 the applicant shall provide a copy of the documentation submitted to the State Water Resources Control Board before January 1, 2019, demonstrating that the diversion is subject to Water Code section 5101, subdivision (a), (c), (d), or (e).

Authority: Section 26013, Business and Professions Code. Reference: Sections 26050, 26051.5 and 26070, Business and Professions Code; and Section 13149, Water Code.

§ 5504. License Issuance in an Impacted Watershed

If the State Water Resources Control Board or the Department of Fish and Wildlife finds, based on substantial evidence, that a microbusiness' cannabis cultivation is causing significant adverse impacts on the environment in a watershed or other geographic area, the Bureau shall not issue new microbusiness licenses that include cultivation activities or increase the total number of plant identifiers within that watershed or area.

Authority: Section 26013, Business and Professions Code. Reference: Section 26011.5, 26055, 26070, Business and Professions Code.

§ 5505. Cultivation Records for Licensees Engaging in Cultivation Activities

In addition to the records required by section 5037 of this division, a microbusiness engaging in cultivation activities shall maintain the following records:

- (a) Cultivation plan(s);
- (b) All records evidencing compliance with the environmental protection measures required in sections 5501, 5502, 5503, and 5504 of this division; and
- (c) All unique identifiers (UID) assigned to product in inventory and all unassigned UIDs. UIDs associated with product that has been retired from the track and trace system must be retained for six (6) months after the date the tags were retired.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26069, 26160 and 26161, Business and Professions Code.

§ 5506 Microbusiness Applications Including Manufacturing Activities

In addition to the information required in section 5002 of this division, an application for a microbusiness license that engages or will engage in manufacturing, shall include the following:

- (a) The type of activity conducted at the premises (extraction, infusion, packaging, and/or labeling);
- (b) The types of products that will be manufactured, packaged, or labeled;
- (c) The name, title and phone number of the on-site individual who manages the operation of the premises;
- (d) The name, title and phone number of an alternate contact person for the premises;
- (e) The number of employees at the premises;
- (f) The following information:
 - (1) A description of inventory control procedures sufficient to demonstrate how the applicant will comply with the requirements of Section 40282 of Title 17 of the California Code of Regulations, or a copy of the standard operating procedure addressing inventory control;

(2) A description of quality control procedures sufficient to demonstrate how the applicant will comply with all of the applicable requirements specified in Sections 40232-40268 of Title 17 of the California Code of Regulations or a copy of the standard operating procedure addressing quality control;

(3) A description of security procedures sufficient to demonstrate how the applicant will comply with the requirements of Section 40200 of Title 17 of the California Code of Regulations, or a copy of the standard operating procedure addressing security procedures;

(4) A description of the waste disposal procedures sufficient to demonstrate how the applicant will comply with the requirements of Section 40290 of Title 17 of the California Code of Regulations, or a copy of the standard operating procedure addressing waste management.

(g) Any manufacturer submitting operating procedures and protocols to the Department pursuant to the Act and this chapter may claim such information as a trade secret or confidential by clearly identifying such information as “confidential” on the document at the time of submission. Any claim of confidentiality by a manufacturer must be based on the manufacturer’s good faith belief that the information marked as confidential constitutes a trade secret as defined in Civil Code section 3426.1(d) or is otherwise exempt from public disclosure under the California Public Records Act in Government Code section 6250 et seq.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26050, 26051.5, 26055, and 26070, Business and Professions Code.

§ 5507 Microbusiness Records for Licensees Engaging in Manufacturing Activities

In addition to the records required by section 5037 of this division, a microbusiness engaging in manufacturing activities shall maintain the following records:

(a) Records related to quality of raw materials and ingredients, per section 40252 of Title 17 of the California Code of Regulations.

(b) Records related to manufacturing operations, per section 40254 of Title 17 of the California Code of Regulations.

(c) Records related to written hazard analysis, per section 40256 of Title 17 of the California Code of Regulations.

(d) Records related to preventative controls, per section 40258 of Title 17 of the California Code of Regulations.

(e) Records related to the master manufacturing protocol, per section 40262 of Title 17 of the California Code of Regulations.

(f) Batch production record, per section 40264 of Title 17 of the California Code of Regulations.

(g) Records related to product complaints, per section 40266 of Title 17 of the California Code of Regulations.

(h) Records related to recalls, per section 40268 of Title 17 of the California Code of Regulations.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26160, Business and Professions Code.

Chapter 5. CANNABIS EVENTS

§ 5600. Cannabis Event Organizer License

(a) To obtain a temporary cannabis event license, the event organizer must first apply for and obtain a cannabis event organizer license.

(b) Cannabis event organizers licensed under this section shall comply with chapter 1 of this division except for sections 5001-5002, 5006-5008, 5010, 5016, 5019, 5025-5029, 5032-5034, and 5042-5044, and 5046-5055.

(c) A cannabis event organizer licensee is not authorized or licensed to cultivate, distribute, manufacture, or retail cannabis or cannabis products without first obtaining the appropriate licenses or authorizations to engage in such commercial cannabis activities.

(d) A cannabis event organizer shall comply with the records retention provisions of section 5037 of this division. Records shall be kept by the cannabis event organizer in a manner that allows the records to be produced for the Bureau in either hard copy or electronic form, whichever the Bureau requests. Failure to produce records upon the Bureau's request may result in disciplinary action against the cannabis event organizer license and/or denial of a temporary cannabis event license.

(e) Cannabis event organizer applications may be completed online at www.bcc.ca.gov or by delivering a printed copy to the Bureau's office(s).

(f) Applicants who submit their applications online shall first register for a user account as provided by section 5002(b) of this division.

(g) An application must be completed by an owner as defined by Business and Professions Code section 26001(al). An application for cannabis event organizer licensure includes the following:

(1) The name of the applicant. For applicants who are individuals, the applicant shall provide both the first and last name of the individual. For applicants who are business entities, the applicant shall provide the legal business name of the applicant.

(2) If applicable, the business trade name ("DBA") of the applicant.

(3) Payment of an application fee pursuant to section 5014 of this division.

(4) Whether the owner is serving or has previously served in the military. Disclosure of military service is voluntary. An applicant who has served as an active duty member of the Armed Forces of the United States and was honorably discharged and who can provide evidence of such honorable discharge shall have his or her application expedited pursuant to Business and Professions Code section 115.4.

- (5) A list of the license types and the license numbers issued from the Bureau and all other state cannabis licensing authorities that the applicant holds, including the date the license was issued and the licensing authority that issued the license.
- (6) Whether the applicant has been denied a license or has had a license suspended or revoked by the Bureau or any other state cannabis licensing authority. The applicant shall provide the type of license applied for, the name of the licensing authority that denied the application, and the date of denial.
- (7) The mailing address for the applicant.
- (8) The telephone number for the applicant.
- (9) The website address of the applicant's business, if applicable.
- (10) The email address for the applicant's business.
- (11) Contact information for the applicant's designated primary contact person including the name, title, phone number, and email address of the individual.
- (12) The federal employer identification number for the applicant's business.
- (13) A description of the business organizational structure of the applicant, such as partnership or corporation.
- (14) The business-formation documents, which may include, but are not limited to, articles of incorporation, operating agreements, partnership agreements, and fictitious business name statements. The applicant shall also provide all documents filed with the California Secretary of State, which may include, but are not limited to, articles of incorporation, certificates of stock, articles of organization, certificates of limited partnership, and statements of partnership authority. If the commercial cannabis business is held in trust, the applicant shall provide a copy of the trust.
- (15) A list of every fictitious business name the applicant is operating under including the address where the business is located.
- (16) An applicant that is a foreign corporation shall include in its application the certificate of qualification issued by the California Secretary of State under Corporations Code section 2105.
- (17) The applicant shall supply the following financial information:
 - (A) A list of funds belonging to the applicant's cannabis event organizing business held in savings, checking, or other accounts maintained by a financial institution. The applicant shall provide, for each account, the financial institution's name, the financial institution's address, account type, account number, and the amount of money in the account.
 - (B) A list of loans made to the applicant for its use in cannabis event organizing activities. For each loan, the applicant shall provide the amount of the loan, the date of the loan, term(s) of the loan, security provided for the loan, and the name, address, and phone number of the lender.
 - (C) A list of investments made into the applicant's cannabis event organizing activities. For each investment, the applicant shall provide the amount of the investment, the date of the investment, term(s) of the investment, and the name, address, and phone number of the investor.

(D) A list of all gifts of any kind given to the applicant for its use in cannabis event organizing activities. For each gift, the applicant shall provide the value of the gift or description of the gift, and the name, address, and phone number of the provider of the gift.

(18) A complete list of every individual that has a financial interest in the cannabis event organizing business as defined in section 5004 of this division, who is not an owner as defined in Business and Professions Code section 26001(al).

(19) A complete list of every owner of the applicant as defined in Business and Professions Code section 26001(al). Each individual named on this list shall submit the following information:

(A) The full name of the owner.

(B) The owner's title within the applicant entity.

(C) The owner's date of birth and place of birth.

(D) The owner's social security number or individual taxpayer identification number.

(E) The owner's mailing address.

(F) The owner's telephone number. This may include a number for the owner's home, business, or mobile telephone.

(G) The owner's email address.

(H) The owner's current employer.

(I) The percentage of the ownership interest held in the applicant entity by the owner.

(J) Whether the owner has an ownership or a financial interest as defined in sections 5003 and 5004, respectively, of this division in any other commercial cannabis business licensed under the Act.

(K) A copy of the owner's government-issued identification. Acceptable forms of identification are a document issued by a federal, state, county, or municipal government that includes the name, date of birth, height, gender, and picture of the person, such as a driver license.

(L) A detailed description of the owner's convictions. A conviction within the meaning of this section means a plea or verdict of guilty or a conviction following a plea of nolo contendere. Convictions dismissed under Penal Code section 1203.4 or equivalent non-California law must be disclosed. Convictions dismissed under Health and Safety Code section 11361.8 or equivalent non-California law must be disclosed. Juvenile adjudications and traffic infractions under \$300 that did not involve alcohol, dangerous drugs, or controlled substances do not need to be included. For each conviction, the owner shall provide the following:

(i) The date of conviction.

(ii) Dates of incarceration, if applicable.

(iii) Dates of probation, if applicable.

(iv) Dates of parole, if applicable.

(v) A detailed description of the offense for which the owner was convicted.

(vi) A statement of rehabilitation for each conviction. The statement of rehabilitation is to be written by the owner and may contain evidence that the owner would like the Bureau to consider that demonstrates the owner's fitness for licensure. Supporting evidence may be attached to the statement of rehabilitation and may include, but is not limited to, a certificate of rehabilitation under Penal Code section 4852.01, and dated letters of reference from employers, instructors, or professional counselors that contain valid contact information for the individual providing the reference.

(M) If applicable, a detailed description of any administrative orders or civil judgements for violations of labor standards, any suspension of a commercial cannabis license, revocation of a commercial cannabis license, or sanctions for unlicensed commercial cannabis activity by a licensing authority, local agency, or state agency against the applicant or a business entity in which the applicant was an owner or officer within the three years immediately preceding the date of the application.

(N) Attestation to the following statement: Under penalty of perjury, I hereby declare that the information contained within and submitted with the application is complete, true, and accurate. I understand that a misrepresentation of fact is cause for rejection of this application, denial of the license, or revocation of a license issued.

(20) For an applicant with 20 or more employees, the applicant shall attest that the applicant has entered into a labor peace agreement and will abide by the terms of the agreement. The applicant shall submit a copy of the page of the labor peace agreement that contains signatures of the union representative and the applicant. For applicants who have not yet entered into a labor peace agreement, the applicant shall provide a notarized statement indicating the applicant will enter into and abide by the terms of a labor peace agreement as soon as reasonably practicable after licensure.

(21) The limited waiver of sovereign immunity required by section 5009 of this division, if applicable.

Authority: Sections 115.4 and 26013, Business and Professions Code. Reference: Sections 115.4, 144, 26012, and 26200, Business and Professions Code.

§ 5601. Temporary Cannabis Event License

(a) A temporary cannabis event license authorizes a licensed cannabis event organizer to hold a temporary cannabis event where the onsite sale and consumption of cannabis goods is authorized at the location indicated on the license during the dates indicated on the license.

(b) A temporary cannabis event license shall only be issued to a person who holds a cannabis event organizer license issued by the Bureau.

(c) Violations of the requirements applicable to temporary cannabis events may result in disciplinary action against the cannabis event organizer license or any other licenses held by a

licensee participating in the temporary cannabis event and responsible for the violation under Business and Professions Code section 26070.5.

(d) A temporary cannabis event license shall only be issued for a single day or up to 4 consecutive days. No temporary cannabis event license will be issued for more than 4 days.

(e) An application for a temporary cannabis event license shall be submitted to the Bureau no less than 60 days before the first day of the temporary cannabis event.

(f) A temporary cannabis event may only be held on the grounds of a county fair or district agricultural association. Temporary cannabis events are not required to take place on the same dates as the county fairs or district agricultural association events at these locations.

(g) A temporary cannabis event license shall not be issued for a premises that is licensed for the sale of alcohol or tobacco.

(h) An application for a temporary cannabis event license shall include the following:

(1) The name of the applicant. For applicants who are individuals, the applicant shall provide both the first and last name of the individual. For applicants who are business entities, the applicant shall provide the legal business name of the applicant.

(2) The license number for each state cannabis license held by the applicant.

(3) The address of the location where the temporary cannabis event will be held.

(4) The name of the temporary cannabis event.

(5) A diagram of the physical layout of the temporary cannabis event. The diagram shall clearly indicate where the temporary cannabis event will be taking place on the location grounds, all entrances and exits that will be used by participants during the event, all cannabis consumption areas, and all retail areas where cannabis goods will be sold. The hours during which cannabis goods will be sold shall be noted on the diagram. The diagram shall also clearly indicate the area where cannabis waste will be stored, all areas where cannabis goods will be stored, and the specific location of each cannabis licensee who will be participating in the event. Each cannabis licensee participating in the event shall be identified with an assigned temporary cannabis event location number. The diagram shall not contain highlighting and the markings on the diagram shall be in black-and-white print.

(6) The dates and hours of operation for which the temporary cannabis event license is being sought. A temporary event license is required for any date in which the applicant engages in onsite cannabis sales or allows onsite cannabis consumption.

(7) Contact information for the applicant's designated primary contact person regarding the temporary event license, including the name, title, address, phone number, and email address of the individual.

(8) Contact information for a designated contact person(s) who shall be onsite at the event and reachable by telephone at all times that the event is occurring.

(9) A cannabis waste management plan in accordance with section 5002(c)(29)(E) of this division.

(10) Written approval from the local jurisdiction authorizing the applicant to engage in onsite cannabis sales to, and onsite consumption by, persons 21 years of age or older at the temporary cannabis event.

(11) A list of all licensees and employees that will be providing onsite sales of cannabis goods at the temporary cannabis event.

(12) Attestation to the following statement: Under penalty of perjury, I hereby declare that the information contained within and submitted with the application is complete, true, and accurate. I understand that a misrepresentation of fact is cause for rejection of this application, denial of the license, or revocation of a license issued.

(i) If the list of licensees and employees participating in the temporary cannabis event changes after the application is submitted or after the license is issued, the applicant shall submit an updated list and an updated diagram, as required in subsection (f)(5) of this section, to the Bureau no less than 72 hours before the event. Licensees not on the list submitted to the Bureau shall not participate in the temporary cannabis event.

(j) The event organizer shall hire or contract for security personnel to provide security services at the licensed temporary cannabis event. All security personnel hired or contracted for by the licensee shall be at least 21 years of age, licensed by the Bureau of Security and Investigative Services, and comply with Chapters 11.4 and 11.5 of Division 3 of the Business and Professions Code. Security personnel shall be present on the licensed premises at all times cannabis goods are available for sale and/or cannabis consumption is allowed on the licensed premises.

(k) A cannabis event organizer shall maintain a clearly legible sign, not less than 7" x 11" in size reading, "No Persons Under 21 Allowed" at or near each public entrance to any area where the sale or consumption of cannabis goods is allowed. The lettering of the sign shall be no less than 1 inch in height.

(l) All cannabis waste generated at a temporary cannabis event shall be collected and disposed of in accordance with the requirements of sections 5054 and 5055 of this division. The cannabis event organizer may contract or arrange for the collection and disposal of cannabis waste generated during the temporary cannabis event.

(m) A cannabis event organizer and all other licensees participating in a temporary cannabis event are required to comply with section 5037 of this division and all other applicable requirements in the Act and this division pertaining to record keeping.

Authority: Section 26013, Business and Professions Code. Reference: Section 26012 and 26200, Business and Professions Code.

§ 5602. Temporary Cannabis Event Sales

(a) Only persons age 21 or older may purchase and consume cannabis goods at a temporary cannabis event. Prior to selling cannabis goods to a customer, the licensee making the sale shall confirm, using valid identification as specified in section 5404 of this division, the age and identity of the customer.

- (b) All sales of cannabis goods at a temporary cannabis event must occur in a retail area as designated in the premises diagram pursuant to section 5601(h)(5) of this division.
- (c) Each sale at a temporary cannabis event shall be performed by a licensed retailer or licensed microbusiness. The cannabis event organizer may also sell cannabis goods at the temporary cannabis event if the organizer separately holds a license authorizing the retail sale of cannabis goods.
- (1) Licensed retailers or licensed microbusinesses shall only conduct sales activities within their specifically assigned area, identified in the diagram of the physical layout of the temporary cannabis event.
- (2) Mobile sales activities via wagon, cart, or similar means are prohibited at the temporary cannabis event site.
- (d) Licensed retailers or licensed microbusinesses must prominently display their temporary cannabis event location number and state license within plain sight of the public.
- (e) All sales at a temporary cannabis event shall occur on the dates stated on the license and shall occur at the location stated on the license. All onsite sales of cannabis goods must comply with the hours of operation requirements of section 5403 of this division.
- (f) Sale of alcohol or tobacco shall not be allowed on the licensed temporary cannabis event premises.
- (g) The cannabis goods sold onsite at a temporary cannabis event shall be transported by a licensed distributor or licensed microbusiness in compliance with the Act and this division. All shipments of cannabis and non-cannabis goods intended for sale at a temporary cannabis event must be checked by the temporary cannabis event organizer staff to prevent prohibited items, such as alcohol and tobacco, from entering the licensed premises.
- (h) Except small amounts of cannabis goods used for display, all cannabis goods for sale at a temporary cannabis event shall be stored in a secure, locked container that is not accessible to the public. Cannabis goods being stored by a licensee at a temporary cannabis event shall not be left unattended. Licensees may share the secure, locked container; however, each licensee using the container shall be held responsible for any violations of this section and subject to disciplinary action.
- (i) All cannabis goods at a cannabis event shall comply with all requirements cannabis goods for retail sale within the Act and section 5406 of this division.
- (j) All cannabis goods at a temporary cannabis event shall comply with all track and trace requirements within the Act and this division.
- (k) All cannabis goods used for display at a temporary cannabis event shall comply with the requirements of section 5405 of this division.
- (l) All cannabis goods sold at a temporary cannabis event shall be placed in an exit package pursuant to section 5413 of this division.
- (m) All customer returns of cannabis goods at a temporary cannabis event shall comply with section 5410 of this division.

- (n) The daily sales limits under section 5409 of this division apply to all sales made at a temporary cannabis event.
- (o) A licensed retailer shall only provide free cannabis goods to a person at a temporary cannabis event if the licensed retailer complies with all requirements of section 5411 of this division.
- (p) The cannabis event organizer shall be responsible for ensuring that all rules and requirements for the onsite sale of cannabis goods are followed.
- (q) Any compensation paid from a licensed retailer to a cannabis event organizer for participation in a temporary cannabis event shall not be determined based on, or be contingent on, the sale of cannabis goods.

Authority: Section 26013, Business and Professions Code. Reference: Section 26070 and 26200, Business and Professions Code.

§ 5603. Temporary Cannabis Event Consumption

- (a) Access to the area where cannabis consumption is allowed shall be restricted to persons 21 years of age or older.
- (b) The event organizer licensee shall ensure that cannabis consumption is not visible from any public place or non-age-restricted area.
- (c) Consumption of alcohol or tobacco shall not be allowed on the licensed premises.
- (d) All requirements for onsite cannabis consumption imposed by the relevant local jurisdiction shall be followed and smoking of cannabis goods shall be prohibited in any areas where smoking is prohibited by law.
- (e) The cannabis event organizer, who holds the temporary cannabis event license, shall be responsible for ensuring that all rules and requirements for the onsite consumption of cannabis goods are followed.
- (f) A cannabis event organizer and all other licensees participating in a temporary cannabis event are required to follow all applicable requirements in this division pertaining to record keeping and waste management.
- (hg) Any compensation paid from a licensed retailer to a cannabis event organizer for participation in a temporary cannabis event shall not be determined based on, or tied to, the sale of cannabis goods.

Authority: Section 26013, Business and Professions Code. Reference: Section 26200, Business and Professions Code.

Chapter 6. TESTING LABORATORIES

Article 1. Chapter Definitions

§ 5700. Definitions

In addition to the definitions in section 5000 of this division, the following definitions apply to this chapter.

- (a) “Acceptance criteria” means the specified limits placed on the characteristics of an item or method that are used to determine data quality.
- (b) “Accredited college or university” means a college or university accredited by a regional or national accrediting agency that is an accreditor recognized by the Secretary of the US Department of Education.
- (c) “Accreditation body” means an impartial non-profit organization that operates in conformance with the International Organization for Standardization (ISO) / International Electrotechnical Commission (IEC) standard 17011 and is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for Testing.
- (d) “Action level” means the threshold value that provides the criterion for determining whether a sample passes or fails an analytical test.
- (e) “Analyte” means a chemical, compound, element, bacteria, yeast, fungus, or toxin to be identified or measured.
- (f) “Analytical batch” means a set of no more than 20 samples that is prepared together for the same analysis and are prepared with laboratory quality control (LQC) samples.
- (g) “Analytical method” means a technique used qualitatively or quantitatively to determine the composition of a sample or a microbial contamination of a sample.
- (h) “Analytical sequence” means a group of samples that are analyzed sequentially using the same instrument calibration curve.
- (i) “Cannabinoid” means a class of diverse chemical compounds derived from a cannabis plant.
- (j) “CAS number” means the unique numerical identifier assigned to every chemical substance by Chemical Abstracts Service, a division of the American Chemical Society.
- (k) “CBD” means cannabidiol, CAS number 13956-29-1.
- (l) “CBDA” means cannabidiolic acid, CAS number 1244-58-2.
- (m) “CBG” means cannabigerol, CAS number 25654-31-3.
- (n) “CBN” means cannabinol, CAS number 521-35-7.

- (o) “Certificate of accreditation” means a document issued by an accreditation body that attests to the laboratory’s competence to carry out specific testing analysis.
- (p) “Certificate of analysis” (COA) means the report prepared by the laboratory about the analytical testing performed and results obtained by the laboratory.
- (q) “Certified reference material” means a reference material prepared by a certifying body or a party independent of the laboratory with ISO/IEC 17034 accreditation.
- (r) “Chain of Custody” (COC) means the chronological documentation that records the sequence of custody, control, transfer, analysis, and disposal of a sample.
- (s) “Coefficient of Determination” (commonly denoted as “ r^2 ”) means a statistical measure that determines how well the regression approximates the actual data points in the calibration curve, with a regression of 1 being a perfect fit.
- (t) “Continuing calibration verification” (CCV) means a type of quality control sample that is a mid-range calibration standard which checks the continued validity of the initial calibration of the instrument.
- (u) “Corrective action” means an action taken by the laboratory to resolve, and prevent from recurrence, a problem with the technical operations of the laboratory.
- (v) “Exclusivity” means the specificity of the-test method for validating microbial testing methods. It evaluates the ability of the method to distinguish the target organisms from similar but genetically distinct non-target organisms.
- (w) “Foreign material” means any filthy, putrid, or decomposed substance including hair, insects, excreta, or related adulterant that may be hazardous or cause illness or injury to the consumer.
- (x) “Frequency” means the number of items occurring in each category. Frequency may be determined by analytical method or laboratory specific requirements for accuracy, precision of the analysis, or statistical calculation.
- (y) “Inclusivity” means, related to microbiological method validation, the sensitivity of the test method. It evaluates the ability of the test method to detect a wide range of target organisms by a defined relatedness.
- (z) “Inhalable” means consumable in gaseous or vapor form through the lungs.
- (aa) “Initial Calibration Verification” (ICV) means a solution of targeted method analytes of known concentration that is obtained from a source external to the laboratory and different from the source of calibration standards.
- (bb) “ISO/IEC” means the joint technical committee of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).
- (cc) “ISO/IEC 17025” means the general requirements specified by the ISO/IEC for the competence of testing and calibration laboratories.

(dd) “ISO/IEC 17034” means the general requirements established by the ISO/IEC for the competence of reference material producers.

(ee) “ISO/IEC 17043” means the general requirements established by the ISO/IEC for proficiency testing.

(ff) “Laboratory” means “testing laboratory” as defined at Business and Professions Code section 26001(at).

(gg) “Laboratory Control Sample” (LCS) means a blank matrix to which known concentrations of the target method analytes are added. The LCS is analyzed in the same manner as the representative sample.

(hh) “Laboratory replicate sample” means a sub-sample taken of the representative sample used for laboratory quality control purposes to demonstrate reproducibility. It is prepared and analyzed in the identical manner as the representative sample. The results from replicate analyses are used to evaluate analytical precision.

(ii) “Laboratory employee” means any person directly employed by the laboratory for wages, salary, barter, or trade by the laboratory and who is not employed by any other licensee under the Act except for another testing laboratory. Laboratory employee does not mean independent contractor, third party entity or any other entity acting on behalf of the laboratory.

(jj) “Laboratory quality assurance” means the set of operating principles that enable laboratories to produce defensible data of known accuracy and precision and includes employee training, equipment preventative maintenance procedures, calibration procedures, and quality control testing, among other things.

(kk) “Limit of detection” (LOD) means the lowest quantity of a substance or analyte that can be distinguished from the absence of that substance within a stated confidence limit.

(ll) “Limit of quantitation” (LOQ) means the minimum concentration of an analyte in a specific matrix that can be reliably quantified while also meeting predefined goals for bias and imprecision.

(mm) “Matrix” means the substances that are present in a sample except for the analyte(s) of interest.

(nn) “Matrix spike sample” means a sample prepared by adding a known quantity of the target analyte to a sample matrix or to a matrix that is as closely representative of the matrix being analyzed as possible.

(oo) “Method blank” means an analyte free matrix to which all reagents are added in the same volumes or proportions as used in the sample preparation and is processed in exactly the same manner as the samples.

(pp) “Moisture content” means the percentage of water in a sample, by weight.

(qq) “Non-target organism” means an organism that the test method or analytical procedure is not testing for and can be used in evaluating the specificity of a test method.

(rr) “Percent recovery” means the percentage of a measured concentration relative to the added (spiked) concentration in a reference material or matrix spike sample. A laboratory shall calculate the percent recovery by dividing the sample result by the expected result then multiplying the quotient by 100.

(ss) “Practical experience” means experience performing scientific analytical tests in a laboratory setting using equipment, instruments, kits, and materials routinely found in a laboratory. Practical experience includes experience in any type of laboratory setting and is not limited to cannabis-specific laboratories.

(tt) “Proficiency test” means an evaluation of a laboratory’s performance against pre-established criteria by means of interlaboratory comparisons of test measurements.

(uu) “Proficiency test sample” means a sample that is prepared by a party independent of the testing laboratory with the ISO/IEC 17043 accreditation, where the concentration and identity of an analyte that is known to the independent party, but is unknown to the testing laboratory and testing laboratory employees.

(vv) “Quality control” means the set of measures implemented within an analytical procedure to ensure that the measurement system is operating in a state of statistical control for which errors have been reduced to acceptable levels.

(ww) “Quality control sample” means a sample that is produced and used by a laboratory for the purpose of assuring the quality of the data and results. Quality control samples include blank samples, matrix spike samples, laboratory control samples, replicate samples, and reference material samples.

(xx) “Reagent” means a compound or mixture added to a system to cause a chemical reaction or test if a reaction occurs. A reagent may be used to tell whether a specific chemical substance is present by causing a reaction to occur with the chemical substance.

(yy) “Reference material” means material containing a known concentration of an analyte of interest that is in solution or in a homogeneous matrix.

(zz) “Reference method” means the method by which the performance of an alternate method is measured or evaluated.

(aaa) “Relative percent difference” means the comparative statistic that is used to calculate precision or random error. RPD is calculated using the following equation:

$$\text{RPD} = \left| \frac{\text{representative sample measurement} - \text{replicate sample measurement}}{[\text{representative sample measurement} + \text{replicate sample measurement}] / 2} \right| \times 100\%$$

(bbb) “Relative standard deviation” means the standard deviation expressed as a percentage of the means recovery. RSD is calculated using the following equation:

$$\text{RSD} = (s / x) \times 100\%; \text{ where } s = \text{standard deviation and } x = \text{mean}$$

(ccc) “Representative” means a small quantity of the batch whose characteristics represent, as accurately as possible, the entire batch, thus allowing the results to be generalized.

(ddd) “Representative sample” means a sample that is comprised of several increments of either cannabis goods that are collected from a batch for testing.

(eee) “Requester” means the person who submits a request to the laboratory for testing of cannabis goods from an entity licensed under this division.

(fff) “Reserve sample” means any portion of a representative sample that was not used in the testing process.

(ggg) “Sample” means a representative part of, or a single item from, a batch which is comprised of several sample increments.

(hhh) “Sample increment” means a portion of a batch that, together with other increments, makes up the sample.

(iii) “Sampler” means the laboratory employee responsible for obtaining samples of cannabis goods from a licensed distributor or licensed microbusiness.

(jjj) “Sanitize” means to sterilize, disinfect, or make hygienic.

(kkk) “Scope of accreditation” means the tests or types of tests performed, materials or products tested, and the methods used for testing cannabis or cannabis products for which the accreditation has been granted.

(lll) “Standard operating procedure” (SOP) means a written document that provides detailed instructions for the performance of all aspects of an analysis, operation, or action.

(mmm) “Tamper-evident” means a one-time-use security tape or seal that is affixed to the opening of a package, allowing a person to recognize whether the package has been opened.

(nnn) “Target organism” means an organism that is being tested for in an analytical procedure or test method.

(ooo) “THC” and “delta-9 THC” means tetrahydrocannabinol, CAS number 1972-08-3.

(ppp) “THCA” means tetrahydrocannabinolic acid, CAS number 23978-85-0.

(qqq) “Validation” means the confirmation by examination and objective evidence that the requirements for a specific intended use or analytical method are fulfilled.

(rrr) “Water activity” means the measure of the quantity of water in a product that is available and therefore capable of supporting bacteria, yeasts, and fungi and which is reported in units A_w .

Authority: Section 26013, Business and Professions Code. Reference: Sections 26013 and 26100, Business and Professions Code.

Article 2. Laboratory License

§ 5701. General Laboratory License Requirements

(a) A licensed laboratory shall maintain ISO/IEC 17025 accreditation for the testing of the following:

- (1) Cannabinoids;
- (2) Heavy metals;
- (3) Microbial impurities;
- (4) Mycotoxins;
- (5) Residual pesticides;
- (6) Residual solvents and processing chemicals; and
- (7) If tested, terpenoids.

(b) Each testing laboratory licensed premises shall have ISO/IEC 17025 accreditation.

(c) A licensed laboratory shall retain, and make available to the Bureau upon request, all records associated with the licensee's ISO/IEC 17025 certificate of accreditation.

Authority: Section 26013, Business and Professions Code. Reference: Section 26100, Business and Professions Code

§ 5702. Laboratory License Application

In addition to the information required in section 5002 of this division, an application for a testing laboratory license includes the following:

(a) A valid certificate of accreditation, issued by an accreditation body, that attests to the laboratory's competence to perform testing, including all the required analytes for the following test methods:

- (1) Cannabinoids;
- (2) Heavy metals;
- (3) Microbial impurities;
- (4) Mycotoxins;
- (5) Residual pesticides;
- (6) Residual solvents and processing chemicals; and
- (7) If tested, terpenoids.

(b) Standard operating procedures for the following testing methods:

- (1) Cannabinoids;
- (2) Heavy metals;
- (3) Microbial impurities;
- (4) Moisture content and water activity;
- (5) Mycotoxins;
- (6) Residual pesticides;
- (7) Residual solvents and processing chemicals; and
- (8) If tested, terpenoids.

(c) Method validation report for the following testing methods:

- (1) Cannabinoids;
- (2) Foreign material;
- (3) Heavy metals;
- (4) Microbial impurities;
- (5) Moisture content and water activity;
- (6) Mycotoxins;
- (7) Residual pesticides;
- (8) Residual solvents and processing chemicals; and
- (9) If tested, terpenoids.

(d) Standard operating procedures for the sampling of cannabis goods.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26050, 26051.5, 26055, 26102 and 26104, Business and Professions Code

§ 5703. Provisional Testing Laboratory License

(a) A laboratory may apply for a provisional license prior to receiving ISO/IEC 17025 accreditation provided that the applicant meets all other licensure requirements for a testing laboratory and submits to the Bureau an application in compliance with section 5002 of this division and an attestation that the applicant has or intends to seek ISO/IEC 17025 accreditation for all testing methods required by this division.

(b) A provisional testing laboratory license shall be valid for 12 months. The annual license fee for a provisional license shall be determined pursuant to section 5014 of this division.

(c) To timely renew a provisional license, a completed license renewal form and the annual renewal license fee pursuant to section 5014 of this division shall be received by the Bureau from the licensee no earlier than 60 calendar days before the expiration of the license and no later than 5:00 p.m. Pacific Time on the last business day before the expiration of the license if the renewal form is submitted to the Bureau at its office(s), or no later than 11:59 p.m. on the last business day before the expiration of the license if the renewal form is submitted to the Bureau through its electronic licensing system. Failure to receive a notice for license renewal does not relieve a licensee of the obligation to renew a provisional license as required.

(d) In the event the license is not renewed prior to the expiration date, the licensee must not test any commercial cannabis goods until the license is renewed.

(e) A licensee may submit a license renewal form up to 30 calendar days after the license expires. Any late renewal form will be subject to a late fee equal to 50 percent of the applicable licensing fees required by subsection (c) of this section.

(f) The license renewal application shall contain the following:

(1) The name of the licensee. For licensees who are individuals, the applicant shall provide both the first and last name of the individual. For licensees who are business entities, the licensee shall provide the legal business name of the applicant;

(2) The license number and expiration date;

(3) The licensee's address of record and licensed premises address; and

(4) An attestation that all information provided to the Bureau in the original application under section 5002 of this division or subsequent notification under section 5023 of this division is accurate and current.

(g) The Bureau may renew a provisional license for an initial renewal period of 12 months.

(h) After one renewal, the Bureau may renew the provisional license for additional 12-month periods if the licensee has submitted an application for the ISO/IEC 17025 accreditation. In addition to the information required for a renewal form pursuant to subsection (f) of this section, any renewal request pursuant to this section shall also include an attestation that the licensee's application for each ISO/IEC 17025 is pending with the accrediting body, the name of the accrediting body, and the date the application was submitted to the accrediting body.

(i) The licensee shall notify the Bureau if the application for each ISO/IEC 17025 accreditation is granted or denied within 5 business days of receiving the decision from the accrediting body. If the accrediting body grants or denies the licensee's application for any ISO/IEC 17025 accreditation before the expiration of the provisional license, the Bureau may terminate the provisional license at that time.

(j) The Bureau may revoke a provisional license at any time.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26031, and 26050, Business and Professions Code.

Article 3. Sampling Cannabis and Cannabis Products

§ 5704. Sampling Standard Operating Procedures

(a) The laboratory shall develop and implement a sampling standard operating procedure (SOP) that describes the laboratory's method for obtaining representative samples of cannabis goods. The laboratory shall use and submit to the Bureau Sampling – Standard Operating Procedures, Form BCC-LIC-021 (New 7/18), which is incorporated herein by reference.

(b) The laboratory shall retain a copy of the sampling SOP on the licensed laboratory premises and ensure that the sampling SOP is accessible to the sampler during sampling.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26102, 26104 and 26110, Business and Professions Code.

§ 5705. General Sampling Requirements

(a) The laboratory that obtains a representative sample from a licensed distributor or licensed microbusiness shall perform all the required testing at one licensed laboratory premises.

(b) The laboratory may obtain and analyze samples only from batches in final form as required by Business and Professions Code section 26100.

(c) The laboratory sampler shall collect a representative sample following the procedures specified in the laboratory's sampling standard operating procedure(s).

(d) The laboratory shall collect a representative sample from each batch.

(e) The laboratory shall ensure that the sample is transported and subsequently stored at the laboratory in a manner that prevents degradation, contamination, commingling, and tampering. If the cannabis good specifies on the label how the cannabis good shall be stored, the laboratory shall store the sample as indicated on the label.

(f) The laboratory shall complete a chain of custody form for each sample that the laboratory collects and analyzes.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5706. Chain of Custody (COC)

(a) The laboratory shall develop and implement a COC protocol to ensure accurate documentation is recorded for the transport, handling, storage, and destruction of samples.

(b) The COC protocol shall require the use of a COC form. The sampler shall use a COC to record the following information for each sampled batch:

(1) Laboratory's name, physical address, and license number;

(2) Date and time sampling started and ended;

- (3) Licensed distributor or licensed microbusiness' name, physical address, and license number;
 - (4) Licensed cultivator's, licensed manufacturer's, or licensed microbusiness' name, physical address, and license number;
 - (5) Batch number of the batch from which the representative sample was obtained and assigned unique sample identifier;
 - (6) Sample matrix;
 - (7) Total batch size, by weight, or unit count;
 - (8) Total weight, or unit count of the representative sample;
 - (9) Sampling conditions or problems encountered during the sampling process, if any.
 - (10) Printed name and signature of the licensed distributor or licensed microbusiness' employee; and
 - (11) Printed name and signature of the sampler;
- (c) Each time the sample changes custody between licensees, is transported, or is destroyed, the date, time, and the names and signatures of persons involved in these activities shall be recorded on the COC form.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26102, 26104 and 26110, Business and Professions Code.

§ 5707. Harvest Batch Sampling

- (a) The sampler shall obtain a representative sample from each prepacked or unpacked harvest batch. The representative sample must weigh 0.35% of the total harvest batch weight.
- (b) A sampler may collect greater than 0.35% of a prepacked or unpacked harvest batch if necessary to perform the required testing or to ensure that the samples obtained are representative.
- (c) The prepacked or unpacked harvest batch from which a sample is obtained shall weigh no more than 50.0 pounds. Laboratory analyses of a sample collected from a harvest batch weighing more than 50.0 pounds shall be deemed invalid and the harvest batch from which the sample was obtained may not be released for retail sale.
- (d) When the sampler obtains a representative sample from an unpacked harvest batch, the sampler shall do all the following:
 - (1) Collect the number of increments relative to the unpacked harvest batch size as listed in the following table;
 - (2) Obtain increments from random and varying locations of the unpacked harvest batch, both vertically and horizontally. To the extent practicable, the increments obtained from an unpacked harvest batch shall be of equal weight; and

(3) To the extent practicable, collect an equal number of increments from each container if the unpacked harvest batch is stored in multiple containers.

Unpacked Harvest Batch Size (pounds)	Number of Increments (per sample)
≤ 10.0	8
10.1 – 20.0	16
20.1 – 30.0	23
30.1 – 40.0	29
40.1 – 50.0	34

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5708. Cannabis Product Batch and Pre-Roll Sampling

(a) The sampler shall obtain a representative sample from each cannabis product batch or pre-roll batch.

(b) The sampler may collect a greater number of increments if necessary to perform the required testing or to ensure that the samples obtained are representative.

(c) The cannabis product batch or pre-roll batch from which a representative sample is obtained shall contain no more than 150,000 units. Laboratory analyses of a sample collected from a cannabis product batch containing more than 150,000 units shall be deemed invalid and the cannabis product batch or pre-roll batch from which the representative sample was obtained may not be released for retail sale.

(d) The sampler shall obtain a representative sample of cannabis product or pre-roll batch by collecting, at minimum, the number of increments relative to the batch size as listed in the following table. Each increment consists of 1 packaged unit.

Cannabis Product or Pre-roll Batch Size (units)	Number of Increments (per sample)
≤ 50	2
51 – 150	3
151 – 500	5
501 – 1,200	8
1,201 – 3,200	13
3,201 – 10,000	20
10,001 – 35,000	32
35,001 – 150,000	50

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5709. Laboratory Transportation of Cannabis Goods Samples

(a) The following requirements apply when a licensed testing laboratory transports cannabis goods samples:

(1) Cannabis goods shall only be transported inside of a vehicle or trailer and shall not be visible or identifiable from outside of the vehicle or trailer. For purposes of this section, the inside of the vehicle includes the trunk.

(2) The laboratory shall ensure cannabis goods samples are stored in a locked box, a locked container, or a locked cage that is secured to the inside of the vehicle or trailer during transport.

(3) While left unattended, vehicles, and trailers shall be locked and secured.

(4) The laboratory shall not leave a vehicle or trailer containing cannabis goods samples unattended in a residential area or parked overnight in a residential area.

(5) The laboratory shall ensure that any vehicle or trailer transporting cannabis goods samples has a vehicle alarm system.

(6) The laboratory shall ensure that packages or containers holding cannabis goods samples are neither tampered with, nor opened during transport.

(7) The laboratory transporting cannabis goods samples shall only travel between licensees for whom the laboratory is conducting compliance testing or quality assurance testing for, and the laboratory's licensed premises when engaged in the transportation of cannabis goods. A laboratory shall not deviate from the travel requirements described in this section, except for necessary rest, fuel, or vehicle repair stops.

(8) The laboratory may transport multiple cannabis goods samples obtained from multiple licensees at once.

(9) Vehicles or trailers transporting cannabis goods samples are subject to inspection by the Bureau at any licensed premises or during transport at any time.

(10) No person under the age of 21 years old shall be in a vehicle or trailer transporting cannabis goods samples.

(11) Only an employee of the laboratory, or security personnel who meets the requirement of section 5045 of this division shall be in a vehicle while transporting cannabis goods samples.

(b) The laboratory shall provide the following required transport vehicle information to the Bureau:

(1) Proof that the laboratory owns or holds or a valid lease for each vehicle used to transport cannabis goods samples;

(2) The year, make, model, license plate number, and numerical Vehicle Identification Number (VIN) for each vehicle or trailer used to transport cannabis goods samples; and

(3) Proof of insurance for each vehicle used to transport cannabis goods samples.

(c) The laboratory shall provide the Bureau with the information required by this section in writing for any new vehicle or trailer that will be used to transport cannabis goods samples prior to using the vehicle or trailer.

(d) The laboratory shall provide the Bureau with any changes to the information required by this section in writing within 30 calendar days.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26102, 26104 and 26110, Business and Professions Code.

§ 5710. Laboratory Receipt of Samples Obtained from a Distributor or Microbusiness

(a) The laboratory may accept and analyze a sample from a licensed distributor or licensed microbusiness for the required testing under section 5714 of this division only if there is an accompanying COC form for the sample.

(b) The laboratory employee who receives the sample shall date, print, and sign their name on the accompanying sample COC.

~~(b)~~ (c) The laboratory shall not analyze a sample obtained from a licensed distributor or licensed microbusiness, and the batch from which the sample was obtained may not be released for retail sale, if the any of the following occur:

(1) The sample is received at the laboratory without the requisite COC form;

(2) The tamper-evident material is broken prior to the sample being received at the laboratory; or

(3) There is evidence of sample commingling, contamination, degradation, or a related occurrence rendering the sample unusable for analytical testing when the sample is received at the laboratory.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

Article 4. Standard Operating Procedures

§ 5711. Laboratory Analyses Standard Operating Procedures

The laboratory shall develop, implement, and maintain written standard operating procedures (SOP) for sample preparation and each required test method. The laboratory shall use and submit to the Bureau the following forms which are incorporated by reference:

- (a) Sample Preparation – Standard Operating Procedures, Form BCC-LIC-022 (New 7/18), which is incorporated herein by reference; and
- (b) Test Methods – Standard Operating Procedures, Form BCC-LIC-023 (New 7/18), which is incorporated herein by reference.
- (c) The laboratory shall keep each SOP at the licensed laboratory premises and ensure that each SOP is accessible to laboratory employees during operating hours.
- (d) The laboratory shall make each SOP available for inspection by the Bureau upon request, as well as any other SOPs associated with the licensee’s ISO/IEC 17025 certificate of accreditation.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26100, 26102, 26104 and 26110, Business and Professions Code

§ 5712. Test Methods

- (a) The laboratory shall develop, implement, and validate test methods for the analyses of samples as required under this division.
- (b) To the extent practicable, the laboratory test methods shall comport with the following guidelines:
 - (1) US Food and Drug Administration’s *Bacterial Analytical Manual*, 2016;
 - (2) AOAC International’s *Official Methods of Analysis for Contaminant Testing of AOAC International*, 20th Edition, 2016; and
 - (3) United States Pharmacopeia and the National Formulary’s *Methods of Analysis for Contaminant Testing*, 2016.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5713. Validation of Test Methods

- (a) The laboratory may use a nonstandard, amplified, or modified test method or a method that is designed or developed by the laboratory to validate the methods for analyses of samples.
- (b) The laboratory shall follow the guidelines set forth in the US Food and Drug Administration’s *Guidelines for the Validation of Analytical Methods for the Detection of Microbial Pathogens in Foods and Feeds*, 2nd Edition, April 2015, incorporated herein by reference, to validate test methods for the microbial analysis of samples.
 - (1) The laboratory shall include and address the criteria listed in the following table when validating test methods for microbial analyses of samples.

Criteria	Requirement
Number of target organisms; inclusivity	5
Number of non-target organisms; exclusivity	5
Number of analyte levels per matrix: Qualitative methods	3 levels: high and low inoculum levels and 1 uninoculated level
Number of analyte levels per matrix: Quantitative methods	4 levels: low, medium and high inoculum levels and 1 uninoculated level
Replicates per food at each level tested	2 or more replicates per level

(c) The laboratory shall follow the guidelines set forth in the US Food and Drug Administration's *Guidelines for the Validation of Chemical Methods for the FDA FVM Program*, 2nd Edition, April 2015, incorporated herein by reference, to validate test methods for chemical analysis of samples.

(1) The laboratory shall include and address the following criteria to validate test methods for chemical analyses of samples:

(A) Accuracy;

(B) Precision;

(C) Linearity and range;

(i) The Coefficient of Determination (r^2) for all calibration curves shall be greater than or equal to 0.99.

(ii) LOQ for analytes tested shall be within the linear range of the calibration curve.

(D) Calibration standard;

(i) For calibration curves, there shall be a minimum of five calibration standards, not including zero; and

(ii) Each calibration curve must include an Initial Calibration Verification (ICV).

(E) Sensitivity and selectivity;

(F) Limit of detection and limit of quantitation;

(G) Recovery;

(H) Reproducibility; and

(I) Robustness.

(2) The laboratory shall use certified reference materials, to validate the following chemical analyses. The test method used for analysis is valid if the percent recovery of the certified reference material is between 80% to 120% for all required analytes.

(A) Cannabinoids, if available;

(B) Heavy metals;

(C) Microbial impurities;

(D) Mycotoxins;

(E) Residual pesticides;

(F) Residual solvents and processing chemicals; and

(G) Terpenoids, if available.

(d) The laboratory shall generate a validation report for each test method. Each validation report shall include the following information:

(1) Instrument calibration data, if any;

(2) Raw data, including instrument raw data, for each test method, if any;

(3) Cannabis reference materials or certified reference material results;

(4) Data and calculations pertaining to LOD and LOQ determinations, if any;

(5) LQC report, as described in this chapter, for the validation of each method; and

(6) Worksheets, forms, pictures, or copies of laboratory notebook pages and any other documentation necessary to meet the requirements described in subsections (b) and (c) of this section.

(7) The supervisory or management laboratory employee shall review, approve, sign, and date the validation report for each test method.

(8) Upon new test methods or altered test methods being used in the laboratory, the new validation report shall be submitted to the Bureau within 5 business days.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26100, 26104 and 26110, Business and Professions Code.

Article 5. Laboratory Testing and Reporting

§ 5714. Required Testing

(a) The laboratory shall test each representative sample for the following:

(1) Cannabinoids;

- (2) Foreign material;
- (3) Heavy metals;
- (4) Microbial impurities;
- (5) Mycotoxins;
- (6) Moisture content and water activity;
- (7) Residual pesticides;
- (8) Residual solvents and processing chemicals; and
- (9) If applicable, terpenoids.

(b) The laboratory shall report the results of each analysis performed by the laboratory on the certificate of analysis.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5715. Phase-In of Required Laboratory Testing

(a) Cannabis goods shall not be sold or transferred to a licensed retailer or licensed microbusiness, or released for retail sale, unless a representative sample of the cannabis goods has undergone and passed all testing as required by this section.

(b) All cannabis harvested on or after January 1, 2018, and all cannabis products manufactured on or after January 1, 2018, shall be tested for the following analytes, if applicable:

- (1) Cannabinoids as required in section 5724 of this division;
- (2) Moisture content as required in section 5717 of this division;
- (3) Category II Residual Solvents and Processing Chemicals as required in section 5718 of this division;
- (4) Category I Residual Pesticides as required in section 5719 of this division; and
- (5) Microbial Impurities as required in section 5720 of this division.

(c) In addition to the requirements of subsection (b) of this section, all cannabis harvested on or after July 1, 2018, and all cannabis products manufactured on or after July 1, 2018, shall be tested for the following analytes, if applicable:

- (1) Category I Residual Solvents and Processing Chemicals as required in section 5718 of this division;
- (2) Category II Residual Pesticides as required in section 5719 of this division; and
- (3) Foreign Material as required in section 5722 of this division.

(d) In addition to the requirements in subsections (b) and (c) of this section, all cannabis harvested on or after December 31, 2018, and all cannabis products manufactured on or after December 31, 2018, shall be tested for the following analytes, if applicable:

- (1) Terpenoids as required in section 5725 of this division;
- (2) Mycotoxins as required in section 5721 of this division;
- (3) Heavy Metals as required in section 5723 of this division; and
- (4) Water Activity as required in section 5717 of this division.

(e) Licensees may have a sample of cannabis goods tested for analytes that are not yet required to be tested. However, if the sample fails any additional test(s) not required pursuant to this section on the date of testing, the batch from which the sample was collected fails testing and shall not be released for retail sale.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100 and 26104, Business and Professions Code.

§ 5716. [reserved]

§ 5717. Moisture Content and Water Activity Testing

(a) The laboratory shall analyze at minimum 0.5 grams of the representative sample of dried flower to determine the level of water activity and the percentage of moisture content.

(1) The dried flower sample, including pre-rolls, shall be deemed to have passed water activity testing if the water activity does not exceed 0.65 A_w . The laboratory shall report the result of the water activity test on the certificate of analysis (COA) and indicate “pass” or “fail” on the COA.

(2) The laboratory shall report the result of the moisture content test on the COA as a percentage.

(b) The laboratory shall analyze at least 0.5 grams of the representative sample of solid edible cannabis products to determine the level of water activity. A solid edible cannabis product shall be deemed to have passed water activity testing if the water activity does not exceed 0.85 A_w . The laboratory shall report the result of the water activity test on the COA and indicate “pass” or “fail” on the COA.

(c) If the sample fails water activity testing, the batch from which the sample was collected fails water activity testing and shall not be released for retail sale.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5718. Residual Solvents and Processing Chemicals Testing

(a) The laboratory shall analyze at minimum 0.5 grams of the representative sample of cannabis product or pre-rolls to determine whether residual solvents or processing chemicals are present.

(b) The laboratory shall report the result of the residual solvents and processing chemicals testing in unit micrograms per gram ($\mu\text{g/g}$) on the COA and indicate “pass” or “fail” on the COA.

(c) The laboratory shall establish a limit of quantification (LOQ) of 1.0 $\mu\text{g/g}$ or lower for all Category I Residual Solvents or Processing Chemicals.

(d) The sample shall be deemed to have passed the residual solvents and processing chemicals testing if both of the following conditions are met:

(1) The presence of any residual solvent or processing chemical listed in the following tables in Category I is not detected, and

(2) The presence of any residual solvent or processing chemical listed in the following tables in Category II does not exceed the indicated action levels.

(A) Notwithstanding subsection (d)(2) of this section the limit for ethanol does not apply to cannabis goods that are intended to be tinctures and meet the definition of tincture, as defined by the State Department of Public Health in regulation.

Category I Residual Solvent or Processing Chemical	CAS No.
1,2-Dichloroethane	107-06-2
Benzene	71-43-2
Chloroform	67-66-3
Ethylene oxide	75-21-8
Methylene chloride	75-09-2
Trichloroethylene	79-01-6

Category II Residual Solvent or Processing Chemical	CAS No.	Cannabis Product or Pre-roll Action Level ($\mu\text{g/g}$)
Acetone	67-64-1	1000
Acetonitrile	75-05-8	80
Butane	106-97-8	1000
Ethanol	64-17-5	1000

Ethyl acetate	141-78-6	1000
Ethyl ether	60-29-7	1000
Heptane	142-82-5	1000
Hexane	110-54-3	60
Isopropyl alcohol	67-63-0	1000
Methanol	67-56-1	600
Pentane	109-66-0	1000
Propane	74-98-6	1000
Toluene	108-88-3	180
Total xylenes (ortho-, meta-, para-)	1330-20-7	430

(e) If the sample fails residual solvents and processing chemicals testing, the batch from which the sample was collected fails residual solvents and processing chemicals testing and shall not be released for retail sale.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5719. Residual Pesticides Testing

(a) The laboratory shall analyze at minimum 0.5 grams of the representative sample of cannabis goods to determine whether residual pesticides are present.

(b) The laboratory shall report whether any Category I Residual Pesticides are detected above the limit of detection (LOD) and shall report the result of the Category II Residual Pesticides testing in unit micrograms per gram ($\mu\text{g/g}$) on the COA. The laboratory shall indicate “pass” or “fail” on the COA.

(c) The laboratory shall establish a limit of quantification (LOQ) of 0.10 $\mu\text{g/g}$ or lower for all Category I Residual Pesticides.

(d) The sample shall be deemed to have passed the residual pesticides testing if both of the following conditions are met:

(1) The presence of any residual pesticide listed in the following tables in Category I are not detected, and

(2) The presence of any residual pesticide listed in the following tables in Category II does not exceed the indicated action levels.

Category I Residual Pesticide	CAS No.
Aldicarb	116-06-3
Carbofuran	1563-66-2
Chlordane	57-74-9
Chlorfenapyr	122453-73-0
Chlorpyrifos	2921-88-2
Coumaphos	56-72-4
Daminozide	1596-84-5
DDVP (Dichlorvos)	62-73-7
Dimethoate	60-51-5
Ethoprop(hos)	13194-48-4
Etofenprox	80844-07-1
Fenoxycarb	72490-01-8
Fipronil	120068-37-3
Imazalil	35554-44-0
Methiocarb	2032-65-7
Methyl parathion	298-00-0
Mevinphos	7786-34-7
Paclobutrazol	76738-62-0
Propoxur	114-26-1
Spiroxamine	118134-30-8
Thiacloprid	111988-49-9

Category II Residual Pesticide	CAS No.	Action Level (µg/g)	
		Inhalable Cannabis Goods	Other Cannabis Goods
Abamectin	71751-41-2	0.1	0.3
Acephate	30560-19-1	0.1	5
Acequinocyl	57960-19-7	0.1	4
Acetamiprid	135410-20-7	0.1	5
Azoxystrobin	131860-33-8	0.1	40
Bifenazate	149877-41-8	0.1	5
Bifenthrin	82657-04-3	3	0.5
Boscalid	188425-85-6	0.1	10
Captan	133-06-2	0.7	5
Carbaryl	63-25-2	0.5	0.5
Chlorantraniliprole	500008-45-7	10	40
Clofentezine	74115-24-5	0.1	0.5
Cyfluthrin	68359-37-5	2	1
Cypermethrin	52315-07-8	1	1
Diazinon	333-41-5	0.1	0.2
Dimethomorph	110488-70-5	2	20
Etoxazole	153233-91-1	0.1	1.5
Fenhexamid	126833-17-8	0.1	10
Fenpyroximate	111812-58-9	0.1	2
Flonicamid	158062-67-0	0.1	2
Fludioxonil	131341-86-1	0.1	30
Hexythiazox	78587-05-0	0.1	2
Imidacloprid	138261-41-3	5	3
Kresoxim-methyl	143390-89-0	0.1	1

Category II Residual Pesticide	CAS No.	Action Level (µg/g)	
		Inhalable Cannabis Goods	Other Cannabis Goods
Malathion	121-75-5	0.5	5
Metalaxyl	57837-19-1	2	15
Methomyl	16752-77-5	1	0.1
Myclobutanil	88671-89-0	0.1	9
Naled	300-76-5	0.1	0.5
Oxamyl	23135-22-0	0.5	0.2
Pentachloronitrobenzene	82-68-8	0.1	0.2
Permethrin	52645-53-1	0.5	20
Phosmet	732-11-6	0.1	0.2
Piperonylbutoxide	51-03-6	3	8
Prallethrin	23031-36-9	0.1	0.4
Propiconazole	60207-90-1	0.1	20
Pyrethrins	8003-34-7	0.5	1
Pyridaben	96489-71-3	0.1	3
Spinetoram	187166-15-0, 187166-40-1	0.1	3
Spinosad	131929-60-7, 131929-63-0	0.1	3
Spiromesifen	283594-90-1	0.1	12
Spirotetramat	203313-25-1	0.1	13
Tebuconazole	107534-96-3	0.1	2
Thiamethoxam	153719-23-4	5	4.5
Trifloxystrobin	141517-21-7	0.1	30

(e) If the sample fails residual pesticides testing, the batch from which the sample was collected fails pesticides testing and shall not be released for retail sale.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5720. Microbial Impurities Testing

(a) The laboratory shall analyze a at minimum 1.0 grams of the representative sample of cannabis goods to determine whether microbial impurities are present.

(b) The laboratory shall report the result of the microbial impurities testing by indicating “pass” or “fail” on the COA.

(c) The sample of inhalable cannabis goods shall be deemed to have passed the microbial impurities testing if all of the following conditions are met:

(1) Shiga toxin–producing *Escherichia coli* is not detected in 1 gram;

(2) *Salmonella* spp. is not detected in 1 gram; and

(3) Pathogenic *Aspergillus* species *A. fumigatus*, *A. flavus*, *A. niger*, and *A. terreus* are not detected in 1 gram.

(d) The sample of non-inhalable cannabis goods shall be deemed to have passed the microbial impurities testing if both the following conditions are met:

(1) Shiga toxin–producing *Escherichia coli* is not detected in 1 gram, and

(2) *Salmonella* spp. is not detected in 1 gram.

(e) If the sample fails microbial impurities testing, the batch from which the sample was collected fails microbial impurities testing and shall not be released for retail sale.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5721. Mycotoxin Testing

(a) The laboratory shall analyze at minimum 0.5 grams of the representative sample of cannabis goods to determine whether mycotoxins are present.

(b) The laboratory shall report the result of the mycotoxins testing in unit micrograms per kilograms ($\mu\text{g}/\text{kg}$) on the COA and indicate “pass” or “fail” on the COA.

(c) The sample shall be deemed to have passed mycotoxin testing if both the following conditions are met:

(1) Total of aflatoxin B1, B2, G1, and G2 does not exceed 20 $\mu\text{g}/\text{kg}$ of substance, and

(2) Ochratoxin A does not exceed 20 $\mu\text{g}/\text{kg}$ of substance.

(d) If the sample fails mycotoxin testing, the batch from which the sample was collected fails mycotoxin testing and shall not be released for retail sale.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5722. Foreign Material Testing

- (a) The laboratory shall analyze the representative sample of cannabis goods to determine whether foreign material is present.
- (b) The laboratory shall report the result of the foreign material test by indicating “pass” or “fail” on the COA.
- (c) The laboratory shall perform foreign material testing on the total representative sample prior to sample homogenization.
- (d) When the laboratory performs foreign material testing, at minimum, the laboratory shall do all of the following:
 - (1) Examine both the exterior and interior of the dried flower sample, and
 - (2) Examine the exterior of the cannabis product sample.
- (e) The sample shall be deemed to have passed the foreign material testing if the presence of foreign material does not exceed:
 - (1) 1/4 of the total sample area covered by sand, soil, cinders, or dirt;
 - (2) 1/4 of the total sample area covered by mold;
 - (3) 1 insect fragment, 1 hair, or 1 count mammalian excreta per 3.0 grams; or
 - (4) 1/4 of the total sample area covered by an imbedded foreign material.
- (f) If the sample fails foreign material testing, the batch from which the sample was collected fails foreign material testing and shall not be released for retail sale.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5723. Heavy Metals Testing

- (a) The laboratory shall analyze at minimum 0.5 grams of the representative sample of cannabis goods to determine whether heavy metals are present.
- (b) The laboratory shall report the result of the heavy metals test in micrograms per gram ($\mu\text{g/g}$) on the COA and indicate “pass” or “fail” on the COA.
- (c) The sample shall be deemed to have passed the heavy metals testing if the presence of heavy metals does not exceed the action levels listed in the following table.
- (d) If the sample fails heavy metals testing, the batch from which the sample was collected fails heavy metals testing and shall not be released for retail sale.

Heavy Metal	Action Level (µg/g)	
	Inhalable Cannabis Goods	Other Cannabis Goods
Cadmium	0.2	0.5
Lead	0.5	0.5
Arsenic	0.2	1.5
Mercury	0.1	3.0

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5724. Cannabinoid Testing

(a) The laboratory shall analyze at minimum 0.5 grams of the representative sample of cannabis goods to determine whether the cannabinoid profile of the sample conforms to the labeled content of each cannabinoid such as THC; THCA; CBD; CBDA; CBG; and CBN.

(b) The laboratory shall report the result of the cannabinoid testing on the COA both as a percentage and in milligrams per gram (mg/g) if by dry-weight or milligrams per milliliter (mg/mL) if by volume. The laboratory shall verify that the cannabis goods label conforms with the cannabinoid profile test results and indicate “pass” or “fail” on the COA.:

(1) If the laboratory reports the result of the cannabinoid testing on the COA in dry-weight percent, they shall use the following equation:

$$\text{Dry-weight percent cannabinoid} = \text{wet-weight percent cannabinoid} / (1 - \text{percent moisture} / 100)$$

(c) If the labeled content of any one cannabinoid is expressed as a total concentration of the cannabinoid, the laboratory shall calculate the total cannabinoid concentration as follows:

(1) For concentration expressed in weight:

$$\text{Total cannabinoid concentration (mg/g)} = (\text{cannabinoid acid form concentration (mg/g)} \times 0.877) + \text{cannabinoid concentration (mg/g)}$$

(2) For concentration expressed in volume:

$$\text{Total cannabinoid concentration (mg/mL)} = (\text{cannabinoid acid form concentration (mg/mL)} \times 0.877) + \text{cannabinoid concentration (mg/mL)}$$

(d) The sample shall be deemed to have passed the cannabinoid testing if the concentration of any one cannabinoid, claimed to be present at 5% or greater of the total cannabinoid profile, does not exceed the labeled content of the cannabinoid.

(1) For edible cannabis products with a cannabinoid serving size greater than 5.1 mg, and for all cannabis goods, the concentration of any one cannabinoid shall not exceed the labeled content of the cannabinoid, plus or minus 10%.

(2) For edible cannabis products with a cannabinoid serving size of 2.1 mg to 5.0 mg, the concentration of any one cannabinoid shall not exceed the labeled content of the cannabinoid, plus or minus 15%.

(3) For edible cannabis products with a cannabinoid serving size of less than or equal to 2.0 mg, the concentration of any one cannabinoid shall not exceed the labeled content of the cannabinoid, plus or minus 25%.

(e) If the sample fails cannabinoid testing, the batch from which the sample was collected fails cannabinoid testing and shall not be released for retail sale.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5725. Terpenoid Testing

(a) The laboratory shall analyze at minimum 0.5 grams of the representative sample of cannabis goods to determine whether the terpenoid profile of the sample conforms to the labeled content of terpenoids.

(b) The laboratory shall report the result of the terpenoid testing on the COA both as a percentage and in either milligrams per gram (mg/g) if by weight or milligrams per milliliter (mg/mL) if by volume. The laboratory shall verify that the cannabis goods label conforms with the terpenoid profile test results and indicate “pass” or “fail” on the COA.

(c) The sample shall be deemed to have passed the terpenoid testing if the concentration of any one terpenoid, claimed to be present at 5% or greater of the total terpenoid profile, does not exceed the labeled content of the terpenoids, plus or minus 10%.

(d) If the sample fails terpenoid testing, the batch from which the sample was collected fails terpenoid testing and shall not be released for retail sale.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5726. Certificate of Analysis (COA)

(a) The laboratory shall generate a COA for each representative sample that the laboratory analyzes.

- (b) The laboratory shall ensure that the COA contains the results of all required analyses performed for the representative sample.
- (c) The laboratory shall, within 1 business day of completing analyses of a sample, both upload the COA into the track and trace system and simultaneously provide a copy of the COA to the Bureau via email at bcc@dca.ca.gov and other requesters, if any.
- (d) The COA shall contain, at minimum, the following information:
- (1) Laboratory's name, physical address, and license number;
 - (2) Licensed distributor or licensed microbusiness' name, physical address, and license number;
 - (3) Licensed cultivator's, licensed manufacturer's, or licensed microbusiness' name, physical address, and license number;
 - (4) Batch number of the batch from which the sample was obtained;
 - (5) Sample identifying information, including matrix type and unique sample identifiers;
 - (6) Sample history, including the date collected, the date received by the laboratory, and the date(s) of sample analyses and corresponding testing results;
 - (7) A picture of the cannabis goods, including packaging, if applicable;
 - (8) For dried flower samples, the total weight of the batch, in grams or pounds, and the total weight of the representative sample in grams;
 - (9) For cannabis product or pre-rolls samples, the total unit count of both the representative sample and the total batch size;
 - (10) Measured density of the cannabis goods;
 - (11) The analytical methods, analytical instrumentation used, and corresponding Limits of Detection (LOD) and Limits of Quantitation (LOQ);
 - (12) An attestation on the COA from the laboratory supervisory or management employee that all LQC samples required by section 5730 of this division were performed and met the acceptance criteria; and
 - (13) Analytes detected during the analyses of the sample that are unknown, unidentified, or injurious to human health if consumed, if any.
- (e) The laboratory shall report test results for each representative sample on the COA as follows:
- (1) Indicate an overall "pass" or "fail" for the entire batch;
 - (2) When reporting qualitative results for each analyte, the laboratory shall indicate "pass" or "fail";
 - (3) When reporting quantitative results for each analyte, the laboratory shall use the appropriate units of measurement as required under this chapter;

- (4) When reporting results for each test method, the laboratory shall indicate “pass” or “fail”;
- (5) For representative samples obtained from a cannabis goods batch to which a content label is affixed at the time of sampling, the laboratory shall report the following on the COA:
 - (A) The cannabinoid content and terpenoid content as printed or written on the label that is affixed to the cannabis goods batch;
 - (B) The cannabinoid profile and the terpenoid profile of the representative sample as determined by the laboratory as required under section 5724 and section 5725 of this division, respectively; and
 - (C) The difference, in percentage, between the cannabinoid content and terpenoid content as printed or written on the label and the cannabinoid profile and the terpenoid profile of the representative sample, if any, as determined by the laboratory.
- (6) When reporting results for any analytes that were detected below the analytical method LOQ, indicate “<LOQ”;
- (7) When reporting results for any analytes that were not detected or detected below the LOD, indicate “ND”; and
- (8) Indicate “NT” for any test that the laboratory did not perform.
- (f) The laboratory supervisory or management employee shall validate the accuracy of the information contained on the COA and sign and date the COA.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

Article 6. Post Testing Procedures

§ 5727. Remediation and Retesting

- (a) A cannabis goods batch that has been additionally processed after failed testing must be retested and successfully pass all the analyses required under this chapter. An edible cannabis product batch shall not be additionally processed after a failed testing.
- (b) A cannabis goods batch that failed testing only because of nonconformance with the labeled content may be relabeled so that the batch conforms with the labeled content. Retesting is not required if the relabeling is performed at the licensed distributor or licensed microbusiness premises. An edible cannabis product batch that failed cannabinoid or terpenoid testing may only be remediated by relabeling.
- (c) The licensed distributor or licensed microbusiness shall arrange for remediation of a failed cannabis goods batch. If the batch cannot be remediated, the batch shall be destroyed by the licensed distributor or licensed microbusiness.
- (d) If a batch is not remediated or reprocessed in any way it cannot be retested. Any subsequent COAs produced without remediation or reprocessing of the failed batch will not supersede the initial regulatory compliance testing COA.

(e) A cannabis goods batch may only be remediated twice. If the batch fails after the second remediation attempt and the second retesting, the entire batch shall be destroyed.

(f) Within 1 business day of completing the required analyses of a representative sample obtained from a remediated cannabis goods batch the laboratory shall upload the COA information into the track and trace system. If the licensee does not yet have access to the track and trace system, it shall be emailed to the Bureau.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5728. Post Testing Sample Retention

(a) The laboratory shall retain the reserve sample, consisting of any portion of a sample that was not used in the testing process. The reserve sample shall be kept, at minimum, for 45 business days after the analyses, after which time it may be destroyed and denatured to the point the material is rendered unrecognizable and unusable.

(b) The laboratory shall securely store the reserve sample in a manner that prohibits sample degradation, contamination, and tampering.

(c) The laboratory shall provide the reserve sample to the Bureau upon request.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

Article 7. Laboratory Quality Assurance and Quality Control

§ 5729. Laboratory Quality Assurance (LQA) Program

(a) The laboratory shall develop and implement a LQA program to assure the reliability and validity of the analytical data produced by the laboratory. The LQA program shall, at minimum, include a written LQA manual that addresses the following:

- (1) Quality control procedures;
- (2) Laboratory organization and employee training and responsibilities;
- (3) LQA objectives for measurement data;
- (4) Traceability of data and analytical results;
- (5) Instrument maintenance, calibration procedures, and frequency;
- (6) Performance and system audits;
- (7) Corrective action procedures;
- (8) Steps to change processes when necessary;
- (9) Record retention and document control;

(10) Test procedure standardization; and

(11) Method validation.

(b) The supervisory or management laboratory employee shall annually review, amend if necessary, and approve the LQA program and manual both when they are created and when there is a change in methods, laboratory equipment, or the supervisory or management laboratory employee.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5730. Laboratory Quality Control (LQC) Samples

(a) The laboratory shall use LQC samples in the performance of each analysis according to the following specifications.

(b) The laboratory shall analyze LQC samples in the same manner as the laboratory analyzes cannabis goods samples.

(c) The laboratory shall use at least one negative and one positive control in each analytical batch for each target organism during microbial testing. If one of the controls produces unexpected results, the samples shall be re-prepped and reanalyzed with a new set of controls.

(d) If the result of the microbial analyses is outside the specified acceptance criteria in the following table, the laboratory shall determine the cause and take steps to remedy the problem until the result is within the specified acceptance criteria.

Laboratory Quality Control Sample	Acceptance Criteria	Corrective Action
Positive control	Produces expected result, positive result	Re-prepare and reanalyze the entire analytical batch, once. If problem persists, locate and remedy the source of unexpected result, then re-prepare samples and reanalyze with a new set of controls.
Negative control	Produces expected result, negative result	Re-prepare and reanalyze the entire analytical batch, once. If problem persists, locate and remedy the source of unexpected result, then re-prepare samples and reanalyze with a new set of controls.
Laboratory replicate sample	Sample results must concur	Reanalyze sample and associated replicate sample once. If problem persists re-prepare samples and reanalyze.

(e) The laboratory shall prepare and analyze at least one of each of the following LQC samples for each analytical batch:

(1) Method blank;

(2) Laboratory control sample (LCS); and

(3) Laboratory replicate sample or matrix spike sample.

(f) The laboratory shall analyze, at minimum, a continuing calibration verification (CCV) sample at the beginning of each analytical sequence and every 10 samples thereafter.

(g) If the result of the chemical analyses is outside the specified acceptance criteria in the following table, the laboratory shall determine the cause and take steps to remedy the problem until the result is within the specified acceptance criteria.

Laboratory Quality Control Sample	Acceptance Criteria	Corrective Action
Method blank sample	Not to exceed LOQ	Reanalyze entire analytical batch once. If method blank is still greater than the LOQ for any analyte, locate the source of contamination then re-prepare samples and reanalyze.
LCS	Percent recovery 70% - 130%	Reanalyze the entire analytical batch, once. If problem persists, re-prepare samples and reanalyze or re-run the initial calibration curve.
Laboratory replicate sample	RPD \leq 30%	Reanalyze sample and associated replicate sample once. If problem persists re-prepare samples and reanalyze.
Matrix spike sample	Percent recovery between 70% to 130%	Reanalyze sample and associated matrix spike sample once. If problem persists re-prepare samples and reanalyze.
CCV	Percent recovery between 70% to 130%	Reanalyze all samples that followed the last CCV that met the acceptance criteria. If CCV still fails, re-run the initial calibration curve and all samples in the analytical sequence.

(h) If any analyte is detected above any action level, as described in this chapter, the sample shall be re-prepped and reanalyzed in replicate within another analytical batch.

(1) For quantitative analyses, the re-prepped sample and its associated replicate must meet the acceptance criteria of RPD \leq 30%.

(2) For qualitative analyses, the re-prepped sample and its associated replicate results must concur.

(i) If any LQC sample produces a result outside of the acceptance criteria the laboratory cannot report the result and the entire batch cannot be released for retail sale. The laboratory shall determine the cause and take steps to remedy the problem until the result is within the specified acceptance criteria.

(j) If the laboratory determines that the result is a false-positive or a false-negative, The Bureau may request the laboratory to re-sample or re-test.

(k) The laboratory shall compile and generate one LQC sample report for each analytical batch that includes LQC acceptance criteria, measurements, analysis date, and matrix.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5731. Limits of Detection (LOD) and Limits of Quantitation (LOQ) for Quantitative Analyses

(a) The laboratory shall calculate the LOD for chemical method analyses according to any of the following methods:

(1) Signal-to-noise ratio of between 3:1 and 2:1;

(2) Standard deviation of the response and the slope of calibration curve using a minimum of 7 spiked blank samples calculated as follows;

$$\text{LOD} = (3.3 \times \text{standard deviation of the response}) / \text{slope of the calibration curve; or}$$

(3) A method published by the United States Food and Drug Administration (USFDA) or the United States Environmental Protection Agency (USEPA).

(b) The laboratory shall calculate the LOQ for chemical method analyses according to any of the following methods:

(1) Signal-to-noise ratio of 10:1, at minimum;

(2) Standard deviation of the response and the slope using a minimum of 7 spiked blank samples calculated as follows:

$$\text{LOQ} = (10 \times \text{standard deviation of the response}) / \text{slope of the calibration curve; or}$$

(3) A method published by the USFDA or the USEPA.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

§ 5732. Data Package

(a) The laboratory shall compile and generate one data package for each representative sample that the laboratory analyzes. At a minimum, the data package shall contain the following:

(1) The name, physical address, and license number of the laboratory that performed the analytical procedures;

(2) The name(s), title(s), and signature(s) of the laboratory employee(s) that performed the sample preparation, analyses, data review, and final approval;

(3) All batch sample results and batch LQC sample results;

- (4) Date stamped raw data, including instrument raw data, such as chromatograms for each sample, if any;
 - (5) Instrument test method with parameters, if any;
 - (6) Instrument tune report, if any;
 - (7) Instrument calibration data, if any;
 - (8) LQC sample report that includes LQC acceptance criteria, measurements, analysis date, and matrix;
 - (9) Worksheets, forms, pictures, or copies of laboratory notebook pages and any other pertinent documentation related to the identification and traceability of all reagents, reference materials, and standards used for analysis;
 - (10) Analytical sequence, if any;
 - (11) Shipping manifest, as required under this division;
 - (12) The COC form; and
 - (13) The COA created as required under this chapter.
- (b) After the data package is compiled, and prior to the release of the COA, the supervisory or management laboratory employee shall do the following:
- (1) Review the analytical results for technical correctness and completeness;
 - (2) Verify that the results of each analysis carried out by the laboratory are reported accurately, clearly, unambiguously, and objectively; and
 - (3) Approve the laboratory results by signing and dating the data package.
- (c) The data package shall be kept for a minimum of 7 years and shall be made available upon request by the Bureau.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104, 26110 and 26160, Business and Professions Code.

§ 5733. Required Proficiency Testing

- (a) The laboratory shall participate in a proficiency testing program provided by an organization that operates in conformance with the requirements of ISO/IEC 17043, at least once every six months.
- (b) The laboratory shall annually, successfully participate in a proficiency testing program for each of the following test methods:
 - (1) Cannabinoids;
 - (2) Heavy metals;

- (3) Microbial impurities;
 - (4) Mycotoxins;
 - (5) Residual pesticides;
 - (6) Residual solvents and processing chemicals; and
 - (7) If tested, terpenoids.
- (c) The laboratory shall report all analytes available by the proficiency testing program provider and for which the licensee is required to test as required under this chapter.
- (d) The laboratory shall participate in the proficiency testing program by following the laboratory's existing SOPs for testing cannabis goods.
- (e) The laboratory shall rotate the proficiency testing program among the laboratory employees who perform the test methods.
- (f) Laboratory employees who participate in a proficiency testing program shall sign the corresponding analytical reports or attestation statements to certify that the proficiency testing program was conducted in the same manner as the laboratory tests of cannabis goods.
- (g) A supervisory or management laboratory employee shall review and verify the accuracy of results reported for all proficiency testing program samples analyzed.
- (h) The laboratory shall request the proficiency testing program provider to send results concurrently to the Bureau, if available, or the laboratory shall provide the PT program results to the Bureau within 3 business days after the laboratory receives notification of their test results from the proficiency testing program provider.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100 and 26110, Business and Professions Code.

§ 5734. Satisfactory and Unsatisfactory Proficiency Test Performance

- (a) The laboratory shall be deemed to have successfully participated in a proficiency testing program for an analyte tested in a specific method if the test results demonstrate a "satisfactory" or otherwise proficient performance determination by the proficiency testing program provider.
- (b) The laboratory may not report test results for analytes that are deemed by the proficiency testing program provider as "unacceptable," "questionable," "unsatisfactory", or otherwise deficient.
- (c) The laboratory may resume reporting test results for analytes that were deemed "unacceptable," "questionable," "unsatisfactory", or otherwise deficient, only if both of the following conditions are met:
- (1) The laboratory satisfactorily remedies the cause of the failure for each analyte; and

(2) The laboratory submits, to the Bureau, a written corrective action report demonstrating how the laboratory has fixed the cause of the failure.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100 and 26110, Business and Professions Code.

§ 5735. Laboratory Audits

(a) The laboratory shall conduct an internal audit at least once per year or in accordance with the ISO/IEC 17025 accrediting body's requirement, whichever is more frequent.

(b) The internal audit must include all of the components required by the ISO/IEC 17025 internal-audit standards.

(c) Within 3 business days of completing the internal audit, the laboratory shall submit the results of the internal audit to the Bureau.

(d) Within 3 business days of receiving the Accrediting Body on-site audit findings the laboratory shall submit the results to the Bureau.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26100 and 26104, Business and Professions Code.

Article 8. Laboratory Employee Qualifications

§ 5736. General Laboratory Employee Qualifications

(a) The laboratory may only employ persons who are at least 21 years of age.

(b) The laboratory shall develop and implement an employee training program to ensure competency of laboratory employees for their assigned functions.

(c) The laboratory shall ensure and document that each laboratory employee meets the employee qualifications.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26102 and 26104, Business and Professions Code.

§ 5737. Supervisor or Management Responsibilities and Qualifications

(a) The laboratory shall employ a supervisor or management employee who must be responsible for:

(1) Overseeing and directing the scientific methods of the laboratory;

(2) Ensuring that the laboratory achieves and maintains a laboratory quality assurance program as required by section 5729 of this division; and

(3) Providing ongoing and appropriate training to laboratory employees.

(b) To be considered qualified, the supervisor or management employee must have at minimum:

- (1) A doctoral degree in biological, chemical, agricultural, environmental, or related sciences from an accredited college or university;
- (2) A master's degree in biological, chemical, agricultural, environmental, or related sciences from an accredited college or university, plus at least 2 years of full-time practical experience;
- (3) A bachelor's degree in biological, chemical, agricultural, environmental, or related sciences from an accredited college or university, plus at least 4 years of full-time practical experience; or
- (4) A bachelor's degree in any field from an accredited college or university, plus at least 8 years of full-time practical experience, 4 years of which must have been in a supervisory or management position.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26102 and 26104, Business and Professions Code.

§ 5738. Analyst and Sampler Qualifications

- (a) The laboratory shall employ an analyst who, at minimum, must have either:
 - (1) Earned a master's degree or a bachelor's degree in biological, chemical, agricultural, environmental, or related sciences from an accredited college or university; or
 - (2) Completed 2 years of college or university education that included coursework in biological, chemical, agricultural, environmental, or related sciences from an accredited college or university, plus at least 3 years of full-time practical experience.
- (b) The laboratory shall employ a sampler who, at minimum, must have either:
 - (1) Completed 2 years college or university education; or
 - (2) Earned a High School Diploma or passed a General Educational Development or High School Equivalency exam, plus at least 1 year of full-time practical experience.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26102 and 26104, Business and Professions Code.

Article 9. Record Retention

§ 5739. Records

All laboratory records described in this chapter shall be maintained in accordance with section 5037 of this division.

Authority: Section 26013, Business and Professions Code. Reference: Section 26160, Business and Professions Code.

Chapter 7. ENFORCEMENT

§ 5800. Right of Access

(a) The Bureau, and its authorized representatives, shall have full and immediate access to inspect and:

(1) Enter onto any premises licensed by the Bureau.

(2) Test any vehicle or equipment possessed by, in control of, or used by a licensee or their agents and employees for the purpose of conducting commercial cannabis activity.

(3) Test any cannabis goods or cannabis-related materials or products possessed by, in control of, or used by a licensee or their agents and employees for the purpose of conducting commercial cannabis activity.

(4) Copy any materials, books, or records of any licensee or their agents and employees.

(b) Failure to cooperate with and participate in any Bureau investigation pending against the licensee may result in a licensing violation subject to discipline. This subsection shall not be construed to deprive a licensee of any privilege guaranteed by the Fifth Amendment to the Constitution of the United States, or any other constitutional or statutory privileges. This subsection shall not be construed to require a licensee to cooperate with a request that would require the licensee to waive any constitutional or statutory privilege or to comply with a request for information or other matters within an unreasonable period of time in light of the time constraints of the licensee's business. Any constitutional or statutory privilege exercised by the licensee shall not be used against the licensee in a regulatory or disciplinary proceeding against the licensee.

(c) The Bureau, and its authorized representatives, shall have the rights of immediate access under subsection (a) of this section, during any inspection, investigation, review, or audit, or as otherwise allowed by law.

(d) Prior notice of an inspection, investigation, review, or audit is not required.

(e) Any inspection, investigation, review, or audit of a licensed premises shall be conducted anytime the licensee is exercising privileges under the license, or as otherwise agreed to by the Bureau and the licensee or its agents, employees, or representatives.

(f) If the licensed premises is not accessible because access is only available by going through another licensed premises and the licensee occupying the other licensed premises denies the Bureau access, the licensees shall both be held responsible and subject to discipline.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26015 and 26160, Business and Professions Code; and Section 11181, Government Code.

§ 5801. Notice to Comply

- (a) The Bureau may issue a notice to comply to a licensee for violation(s) of the Act or regulations observed during an inspection.
- (b) The notice to comply shall be in writing and describe the nature and facts of each violation, including a reference to the statute or regulation violated, and may indicate the manner in which the licensee must correct the violation(s) to achieve compliance.
- (c) The Bureau will serve the notice to comply prior to leaving the licensed premises after the inspection on any licensee, employee, agent, or person delegated by any of the aforementioned persons, to facilitate the inspection or accept such notice, or will mail the notice to comply within 15 calendar days of the last date of inspection.
- (d) The notice to comply shall inform the licensee that the licensee may, within 15 calendar days from the date of personal service or mailing of the notice to comply, sign and return the notice to comply declaring under penalty of perjury that each violation was corrected and describing how compliance was achieved.
- (e) Failure to correct the violation(s) in the notice to comply may result in a disciplinary action.

Authority: Section 26013, Business and Professions Code; Reference: Sections 26012 and 26018, Business and Professions Code.

§ 5802. Citations; Orders of Abatement; Administrative Fines

- (a) The Bureau may issue citations containing orders of abatement and fines against a licensee, or an unlicensed person, for any acts or omissions which are in violation of any provision of the Act or any regulation adopted pursuant thereto, or for any violation of state law or regulations applicable to cannabis licensees, including but not limited to state labor law.
- (b) The Bureau may issue a citation under this section to a licensee for a violation of a term or condition contained in a decision placing that licensee on probation.
- (c) Each citation:
 - (1) Shall be in writing.
 - (2) Shall describe with particularity the nature of the violation, including a reference to the law or regulation determined to have been violated.
 - (3) May contain an assessment of an administrative fine of up to \$5,000, and/or an order of abatement fixing a reasonable time for abatement of the violation;
 - (4) Shall be served personally or by certified mail; and
 - (5) Shall inform the licensee or person that he or she may request an informal conference, or contest the citation, or both, pursuant to section 5803 of this division.

(d) Failure to pay a fine within 30 calendar days of the date of assessment, unless the citation is being contested, may result in further action being taken by the Bureau including, but not limited to, suspension or revocation of a license. If a citation is not appealed and the fine is not paid, the full amount of the assessed fine shall be added to the fee for renewal of the license. A license shall not be renewed without the payment of the renewal fee and fine.

(e) The amount of any fine to be levied by the Bureau shall take into consideration the factors listed in Business and Professions Code section 125.9(b)(3).

(f) Nothing in this section shall be deemed to prevent the Bureau from filing an accusation to suspend or revoke a license where grounds for such suspension or revocation exist.

Authority: Sections 125.9 and 26013, Business and Professions Code. Reference: Sections 125.9, 148, 149 and 26012, Business and Professions Code.

§ 5803. Contesting Citations

(a) A cited licensee or person may, within 30 calendar days of service of the citation, contest the citation by requesting a hearing in writing to the Bureau or such hearing is waived. The hearing shall be conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of the Government Code.

(b) In addition to requesting a hearing provided for in subsection (a) of this section, the cited licensee or person may, within 15 calendar days after service of the citation, submit a written request for an informal conference with the Bureau regarding the acts or omissions charged in the citation.

(c) The Bureau shall, within 15 calendar days from receipt of the written request, hold an informal conference with the licensee or person cited, and/or his or her legal counsel or authorized representative.

(d) At the conclusion of the informal conference, the Bureau may affirm, modify, or dismiss the citation, including any fines levied or orders of abatement issued. A written decision stating the reasons for the decision shall be mailed to the cited licensee or person and his or her legal counsel, if any, within 15 calendar days from the date of the informal conference. This decision shall be deemed to be a final order with regard to the citation issued, including the levied fine and the order of abatement, if any.

(e) If the citation is dismissed, any request for a hearing shall be deemed withdrawn. If the citation is affirmed or modified, the cited licensee or person may, in his or her discretion, withdraw the request for a hearing or proceed with the administrative hearing process.

(f) If the citation, including any fine levied or order of abatement, is modified, the citation originally issued shall be considered withdrawn and new citation issued. If a hearing is requested for the subsequent citation, it shall be requested within 30 calendar days in accordance with Business and Professions Code section 125.9(b)(4).

Authority: Section 26013, Business and Professions Code. Reference: Sections 125.9, 26012 and 26016, Business and Professions Code.

§ 5804. Citation Compliance

(a) The time to abate or correct a violation as provided for in an order of abatement may be extended for good cause. If a cited licensee or person who has been issued an order of abatement is unable to complete the correction within the time set forth in the citation because of conditions beyond his or her control after the exercise of reasonable diligence, the licensee or person cited may request an extension of time from the Bureau in which to complete the correction. Such a request shall be in writing and shall be made within the time set forth for abatement.

(b) When a citation is not contested, or if it is appealed and the person cited does not prevail, failure to abate the violation within the time allowed or pay a fine that was imposed shall constitute a violation and a failure to comply with the citation or order of abatement.

(c) Failure to timely comply with an order of abatement or pay a fine that was imposed may result in further action being taken by the Bureau, including, but not limited to, suspension or revocation of a license, or further administrative or civil proceedings.

Authority: Section 26013, Business and Professions Code. Reference: Sections 125.9 and 26012, Business and Professions Code.

§ 5805. Minor Decoys

(a) Peace officers may use a person under 21 years of age to attempt to purchase cannabis goods, for the purposes of enforcing the Act, and to apprehend licensees, employees, or agents of licensees who sell cannabis goods to minors. For purposes of this section, a “minor” is a person under 21 years of age.

(b) The following minimum standards shall apply to the use of a minor decoy:

(1) At the time of the operation, the decoy shall be less than 20 years of age.

(2) A decoy shall either carry his or her own identification showing the decoy’s correct date of birth, or carry no identification. A decoy who carries identification shall present it upon request to any seller of cannabis goods.

(3) A decoy shall answer truthfully any questions about his or her age.

(4) Following any completed sale, but not later than the time a citation, if any, is issued, the peace officer directing the decoy shall make a reasonable attempt to enter the licensed premises or respond to the location where the licensee is located and have the minor decoy who purchased cannabis goods identify the alleged seller of the cannabis goods.

Authority: Sections 26013 and 26140, Business and Professions Code. Reference: Section 26140, Business and Professions Code.

§ 5806. Attire and Conduct

No license shall allow the following:

- (a) Employment or use of any person in the sale or service of cannabis goods in or upon the licensed premises while such person is unclothed or in such attire, costume, or clothing as to expose to view any portion of the male or female breast below the top of the areola or of any portion of the pubic hair, anus, cleft of the buttocks, vulva, or genitals.
- (b) Employment or use of the services of any host or other person to mingle with the patrons while such hostess or other person is unclothed or in such attire, costume, or clothing as described in subsection (a)(1) of this section.
- (c) Encouraging or permitting any person on the licensed premises to touch, caress, or fondle the breasts, buttocks, anus, or genitals of any other person.
- (d) Permitting any employee or person to wear or use any device or covering, exposed to view, which simulates the breast, genitals, anus, pubic hair, or any portion thereof.

Authority: Section 26013, Business and Professions Code. Reference: 26011.5, Business and Professions Code.

§ 5807. Entertainers and Conduct

- (a) Live entertainment is permitted on a licensed premises, except that no licensee shall permit any person to perform acts of or acts that simulate:
 - (1) Sexual intercourse, masturbation, sodomy, bestiality, oral copulation, flagellation, or any sexual acts that are prohibited by law.
 - (2) Touching, caressing, or fondling of the breast, buttocks, anus, or genitals.
 - (3) Displaying of the buttocks, breasts, pubic hair, anus, vulva, or genitals.
- (b) No licensee shall permit any person to use artificial devices or inanimate objects to depict any of the prohibited activities described above.
- (c) No licensee shall permit any person to remain in or upon the licensed premises who exposes to public view any portion of his or her breast, buttocks, genitals, or anus.

Authority: Section 26013, Business and Professions Code. Reference: 26011.5, Business and Professions Code.

§ 5808. Additional Grounds for Discipline

The following include, but are not limited to, additional grounds that constitute a basis for disciplinary action:

- (a) Failure to pay a fine imposed by the Bureau or agreed to by the licensee.

(b) Failure to take reasonable steps to correct objectionable conditions on the licensed premises, including the immediately adjacent area that is owned, leased, or rented by the licensee, that constitute a nuisance, within a reasonable time after receipt of notice to make those corrections, under Penal Code section 373a.

(c) Failure to take reasonable steps to correct objectionable conditions that occur during operating hours on any public sidewalk abutting a licensed premises and constitute a nuisance, within a reasonable time after receipt of notice to correct those conditions from the Bureau. This subsection shall apply to a licensee only upon written notice to the licensee from the Bureau. The Bureau shall issue this written notice upon its own determination, or upon a request from the local law enforcement agency in whose jurisdiction the licensed premises is located, that is supported by substantial evidence that persistent objectionable conditions are occurring on the public sidewalk abutting the licensed premises. For purposes of this subsection:

(1) “Any public sidewalk abutting a licensed premises” means the publicly owned, pedestrian-traveled way, not more than 20 feet from the licensed premises, that is located between a licensed premises, including any immediately adjacent area that is owned, leased, or rented by the licensee, and a public street

(2) “Objectionable conditions that constitute a nuisance” means disturbance of the peace, public intoxication, drinking alcoholic beverages in public, smoking or ingesting cannabis or cannabis products in public, harassment of passersby, gambling, prostitution, loitering, public urination, lewd conduct, drug trafficking, or excessive loud noise.

(3) “Reasonable steps” means all of the following:

(A) Calling the local law enforcement agency. Timely calls to the local law enforcement agency that are placed by the licensee, or his or her agents or employees, shall not be construed by the Bureau as evidence of objectionable conditions that constitute a nuisance.

(B) Requesting those persons engaging in activities causing objectionable conditions to cease those activities, unless the licensee, or his or her agents or employees, feel that their personal safety would be threatened in making that request.

(C) Making good faith efforts to remove items that facilitate loitering, such as furniture, except those structures approved or permitted by the local jurisdiction. The licensee shall not be liable for the removal of those items that facilitate loitering.

(4) When determining what constitutes “reasonable steps,” the Bureau shall consider site configuration constraints related to the unique circumstances of the nature of the business.

(d) Notwithstanding that the licensee corrects the objectionable conditions that constitute a nuisance, the licensee has a continuing obligation to meet the requirements of subsections (a) and (b) of this section, and failure to do so shall constitute grounds for disciplinary action.

(e) If a licensee has knowingly permitted the illegal sale, or negotiations for the sales, of controlled substances or dangerous drugs upon his or her licensed premises. Successive sales, or

negotiations for sales, over any continuous period of time shall be deemed evidence of permission. As used in this section, “controlled substances” shall have the same meaning as is given that term in Article 1 (commencing with Section 11000) of Chapter 1 of Division 10 of the Health and Safety Code, and “dangerous drugs” shall have the same meaning as is given that term in Article 2 (commencing with Section 4015) of Chapter 9 of Division 2 of the Business and Professions Code.

(f) If the licensee has employed or permitted any persons to solicit or encourage others, directly or indirectly, to buy such persons cannabis goods in the licensed premises under any commission, percentage, salary, or other profit-sharing plan, scheme, or conspiracy.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26011.5 26012, 26030, and 26031, Business and Professions Code.

§ 5809. Disciplinary Actions

(a) When an accusation recommending disciplinary action against a license has been filed pursuant to Business and Professions Code section 26031, the accusation shall be served on the licensee in accordance with Government Code section 11505.

(b) A hearing shall be conducted in accordance with the provisions of Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code to determine if cause exists to take action against the licensee. At such a hearing, the Bureau shall have all the powers granted therein and by the Business and Professions Code.

(c) If a hearing on an accusation against a licensee results in a finding that the licensee has committed any of the acts or omissions constituting grounds for disciplinary action, the Bureau may order the license revoked, suspended outright for a specified period of time, or suspended on probationary restriction for a specified period of time on such terms and conditions of probation as in its judgment are supported by its findings, impose a fine, or any combination thereof. The Bureau may also issue such other lawful orders it considers to be appropriate on the basis of its findings.

(d) An accusation may be terminated by written stipulation at any time prior to the conclusion of the hearing on the accusation. If a licensee submits a proposed stipulation to the Bureau for its consideration and the Bureau subsequently declines to accept the proposed stipulation, the Bureau shall not thereafter be disqualified from hearing evidence on the accusation and taking action thereon as authorized in this section.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26012, 26031 and 26034, Business and Professions Code.

§ 5810. Interim Suspension

(a) Pursuant to Business and Professions Code section 494, the Bureau may petition for an interim order to suspend any license or impose licensing restrictions upon any licensee, if:

(1) The licensee has engaged in acts or omissions constituting a violation of the Business and Professions Code or this division, or been convicted of a crime substantially related to the licensed activity, and

(2) Permitting the licensee to continue to engage in the licensed activity would endanger the public health, safety, or welfare.

(b) An interim order for suspension or restrictions may issue with notice, as follows:

(1) The Bureau shall provide the licensee with at least 15 days' notice of the hearing on the petition for an interim order.

(2) The notice shall include documents submitted in support of the petition.

(c) An interim order for suspension or restrictions may issue without notice to the licensee, as follows:

(1) If it appears from the Bureau's petition and supporting documents that serious injury would result to the public before the matter could be heard on notice.

(2) The Bureau shall provide the licensee with a hearing on the petition within 20 days after issuance of the initial interim order.

(3) Notice of the hearing shall be provided within two days after issuance of the initial interim order.

(d) The Bureau shall file an accusation, pursuant to Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, within 15 calendar days of the issuance of the interim order.

Authority: Section 26013, Business and Professions Code; Reference: Sections 494, 26011.5, 26012 and 26031, Business and Professions Code.

§ 5811. Posting of Notice of Suspension

(a) A licensee whose license has been suspended shall conspicuously and continuously display a notice on the exterior of the licensee's premises for the duration of the suspension.

(b) The notice shall be two feet in length and 14 inches in width. The notice shall read:

NOTICE OF SUSPENSION
The Bureau of Cannabis Control License(s)
Issued For This Premises Has Been Suspended
For Violation of State Law

(c) Advertising or posting signs to the effect that the licensed premises has been closed or that business has been suspended for any reason other than the reason provided in the decision suspending the license, shall be deemed a violation of this section.

(d) Failure to display the notice as required in this section or removal of the notice prior to the expiration of the suspension shall be a violation of this section and may result in additional disciplinary action.

(e) A licensee shall notify the Bureau within 24 hours of discovering that the notice under subsection (b) of this section has been removed or damaged to an extent that makes the notice illegible.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26011.5 and 26012, Business and Professions Code.

§ 5812. Posting of Notice of Revocation

(a) A licensee whose license has been revoked shall conspicuously display a notice on the exterior of the licensee's premises indicating that the license has been revoked. The notice shall remain continuously on the licensed premises for at least 15 calendar days.

(b) The notice shall be two feet in length and 14 inches in width. The notice shall read:

NOTICE OF REVOCATION
The Bureau of Cannabis Control License(s)
Issued For This Premises Has Been Revoked
For Violation of State Law

(c) Advertising or posting signs to the effect that the licensed premises has been closed or that business has been suspended for any reason other than the reason provided in the decision revoking the license shall be deemed a violation of this section.

(d) If the Bureau revokes a license at a licensed premises that has one or more licenses at the location that will remain active after the revocation, the revocation notice shall remain posted for a period of at least 15 calendar days.

(e) Failure to display for the time required in this section shall be a violation of this section and may result in additional disciplinary action.

(f) A licensee shall notify the Bureau within 24 hours of discovering that the notice under subsection (b) of this section has been removed or damaged to an extent that makes the notice illegible.

Authority: Section 26013, Business and Professions Code. Reference: Sections 26011.5 and 26012, Business and Professions Code.

§ 5813. Enforcement Costs

(a) In any order in resolution of a disciplinary proceeding for suspension or revocation of a license, the Bureau may request the administrative law judge to direct a licensee found to have committed a violation or violations of the Act, or any regulation adopted pursuant to the Act, to pay a sum not to exceed the reasonable costs of the investigation and enforcement of the case.

(b) A certified copy of the actual costs, or a good faith estimate of costs where actual costs are not available, signed by the Bureau's designated representative shall be prima facie evidence of reasonable costs of investigation and prosecution of the case. The costs shall include the amount of investigative and enforcement costs up to the date of the hearing, including, but not limited to, charges imposed by the Attorney General.

(c) The administrative law judge shall make a proposed finding of the amount of reasonable costs of investigation and prosecution of the case when requested pursuant to subsection (a). The Bureau may reduce or eliminate the cost award, or remand to the administrative law judge where the proposed decision fails to make a finding on costs requested pursuant to subsection (a).

(d) Where an order for recovery of costs is made and timely payment is not made as directed in the decision, the Bureau may enforce the order for repayment in any appropriate court. This right of enforcement shall be in addition to any other rights the Bureau may have as to any licensee to pay costs.

(e) In any action for recovery of costs, proof of the decision shall be conclusive proof of the validity of the order of payment and the terms for payment.

(f) Except as provided in subsection (g) of this section, the Bureau shall not renew or reinstate any license of any licensee who has failed to pay all of the costs ordered under this division.

(g) Notwithstanding subsection (f) of this section, the Bureau may, in its discretion, conditionally renew or reinstate for a maximum of one year the license of any licensee who demonstrates financial hardship and who enters into a formal agreement with the Bureau for reimbursement within that one-year period for the unpaid costs.

(h) Nothing in this section shall preclude the Bureau from including the recovery of the costs of investigation and enforcement of a case in any stipulated settlement.

Authority: Section 26013, Business and Professions Code; Reference: Sections 125.3, 26012, and 26031, Business and Professions Code

§ 5814. Disciplinary Guidelines

In reaching a decision on a disciplinary action under the Act and the Administrative Procedures Act (Govt. Code section 11400 et seq.), the Bureau shall consider the disciplinary guidelines entitled "Bureau of Cannabis Control Disciplinary Guidelines November 2017," which are hereby incorporated by reference. Deviation from these guidelines and orders, including the standard terms of probation, is appropriate where the Bureau in its sole discretion determines that the facts of the particular case warrant such a deviation, e.g., the presence of mitigating factors, the age of the case, or evidentiary problems.

Authority: Section 26013, Business and Professions Code; Reference: Section 26012, 26031, Business and Professions Code.

§ 5815. Emergency Decision and Order

(a) The Bureau may issue an emergency decision and order for temporary, interim relief to prevent or avoid immediate danger to the public health, safety, or welfare. Such circumstances include, but are not limited to, the following:

(1) The Bureau has information that cannabis goods at a licensee's premises have a reasonable probability of causing serious adverse health consequences or death.

(2) To prevent the sale, transfer, or transport of contaminated or illegal cannabis goods in possession of the licensee.

(3) The Bureau observes or has information that conditions at the licensee's premises exist that present an immediate risk to worker or public health and safety.

(4) To prevent illegal diversion of cannabis goods, or other criminal activity at the licensee's premises.

(5) To prevent the destruction of evidence related to illegal activity or violations of the Act.

(6) To prevent misrepresentation to the public, such as selling untested cannabis goods, providing inaccurate information about the cannabis goods, or cannabis goods that have been obtained from an unlicensed person.

(b) Temporary, interim relief, may include a suspension or administrative hold by one or more of the following:

(1) The temporary suspension of a license.

(2) An order to segregate or isolate specific cannabis goods.

(3) An order prohibiting the movement of cannabis goods to or from the premises.

(4) An order prohibiting the sale of specific cannabis goods.

(5) An order prohibiting the destruction of specific cannabis goods.

(c) The emergency decision and order issued by the Bureau shall include a brief explanation of the factual and legal basis of the emergency decision that justify the Bureau's determination that emergency action is necessary, and the specific actions ordered. The emergency decision and order shall be effective when issued or as otherwise provided by the decision and order.

(d) To issue an administrative hold which prohibits activity related to specified cannabis goods, the Bureau shall comply with the following:

(1) The notice of the administrative hold shall include a description of the cannabis goods subject to the administrative hold.

(2) Following notice, the Bureau shall identify the cannabis goods subject to the administrative hold in the track and trace system.

(e) A licensee subject to an administrative hold shall comply with the following:

(1) Within 24 hours of receipt of the notice of administrative hold, physically segregate all designated cannabis goods in a limited access area of the licensed premises. The licensee shall ensure that all cannabis goods subject to the administrative hold are safeguarded and preserved in a manner that prevents tampering, degradation, or contamination.

(2) While the administrative hold is in effect, the licensee shall not sell, donate, transfer, transport, gift, or destroy the cannabis goods subject to the hold.

(3) A microbusiness licensee subject to an administrative hold may continue to cultivate any cannabis subject to an administrative hold. If the cannabis subject to the hold must be harvested, the licensee shall place the harvested cannabis into separate batches.

(4) A licensee may voluntarily surrender cannabis goods that are subject to an administrative hold. The licensee shall identify the cannabis goods being voluntarily surrendered in the track and trace system. Voluntary surrender shall not be construed to waive the right to a hearing or any associated rights.

(f) To issue a temporary suspension the Bureau shall specify in the order that the licensee shall immediately cease conducting all commercial cannabis activities under its license, unless otherwise specified in the order.

(g) A microbusiness licensee subject to a temporary suspension may continue to cultivate cannabis at the licensed premises only as prescribed by the Bureau in the order. If the order permits the cannabis to be harvested, the licensee shall place the harvested cannabis into separate batches.

(h) The emergency decision and order for temporary, interim relief shall be issued in accordance with the following procedures:

(1) The Bureau shall give notice of the emergency decision and order and an opportunity to be heard to the licensee prior to the issuance, or effective date, of the emergency decision and order, if practicable.

(2) Notice and hearing under this section may be oral or written and may be provided by telephone, personal service, mail, facsimile transmission, electronic mail, or other electronic means, as the circumstances permit.

(3) Notice may be given to the licensee, any person meeting the definition of owner for the license, or to the manager or other personnel at the premises.

(4) Upon receipt of the notice, the licensee may request a hearing within three (3) business days by submitting a written request for hearing to the Bureau through electronic mail, facsimile transmission, or other written means. The hearing shall commence within five (5) business days of receipt of the written request for hearing, unless a later time is agreed upon by the Bureau and the licensee.

(5) The hearing may be conducted in the same manner as an informal conference under section 5803 of this division however, the timeframes provided in section 5803 shall not apply to a hearing under this section. Pre-hearing discovery or cross-examination of witnesses is not required under this section.

(6) Following the hearing, the emergency decision and order shall be affirmed, modified, or set aside as determined appropriate by the Bureau within five (5) business days of the hearing.

(i) Within ten (10) days of the issuance or effective date of the emergency decision and order for temporary, interim relief, the Bureau shall commence adjudicative proceedings in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code to resolve the underlying issues giving rise to the temporary, interim relief, notwithstanding the pendency of proceedings for judicial review of the emergency decision as provided in subsection (k).

(j) After formal proceedings pursuant to subsection (i) of this section are held, a licensee aggrieved by a final decision of the Bureau may appeal the decision to the Cannabis Control Appeals Panel pursuant to Section 26043 of the Act.

(k) Notwithstanding administrative proceedings commenced pursuant to subsection (i), the licensee may obtain judicial review of the emergency decision and order pursuant to section 1094.5 of the Code of Civil Procedure in the manner provided in Section 11460.80 of the Government Code without exhaustion of administrative remedies.

(l) The Bureau's authority provided by this section may be used in addition to any civil, criminal, or other administrative remedies available to the Bureau.

Authority: Section 26013, Business and Professions Code and Section 11460.30, Government Code. Reference: Section 26012, Business and Professions Code, Sections 11460.10, 11460.20, 11460.30, 11460.40, 11460.50, 11460.60, 11460.70, 11460.80, Government Code.

Chapter 8. OTHER PROVISIONS

Article 1. Research Funding

§ 5900. Eligibility

(a) Only public universities in California shall be eligible to be selected to receive funds disbursed pursuant to Revenue and Taxation Code section 34019(b).

(b) Subject to available funding, the amounts to be disbursed to the university or universities will not exceed the sum of ten million dollars (\$10,000,000) for each fiscal year, ending with the 2028-2029 fiscal year.

Authority: Section 26013, Business and Professions Code and Section 34019, Revenue and Taxation Code; Reference: Section 34019, Revenue and Taxation Code.

§ 5901. Request for Proposals

A Request for Proposal (RFP) is the document issued by the Bureau, which notifies all eligible fund recipients of the following, at a minimum:

- (a) The funding available for research related to the Act or regulations adopted pursuant thereto;
- (b) Disbursement of funds to eligible applicants through a review and selection process, including the criteria that will be used for review and selection;
- (c) The specified timeframes for the proposal review and selection process, including the deadline for submission of proposals.
- (d) Proposal requirements, including necessary documentation;
- (e) Any priorities or restrictions imposed upon the use of the funds;
- (f) The governing statutes and regulations; and
- (g) The name, address, and telephone number of a contact person within the Bureau, who can provide further information regarding the process for submission of proposals.

Authority: Section 26013, Business and Professions Code and Section 34019, Revenue and Taxation Code; Reference: Section 34019, Revenue and Taxation Code.

§ 5902. Selection Process and Criteria

- (a) The selection process shall involve eligible proposals timely received by the Bureau, in response to an applicable RFP, or similar notice.
- (b) The Bureau will consider only one proposal per applicant for a given research project. Applicants may submit more than one proposal if the proposals are for separate and distinct research projects or activities.
- (c) The Bureau will make a selection for funding, based on criteria, including but not limited to:
 - (1) The extent to which the proposed project is designed to achieve objectives as specified in Revenue and Taxation Code section 34019(b).
 - (2) The extent to which the proposed project is designed to achieve measurable outcomes, and the clarity of the measures for success.
 - (3) The extent to which the proposed project is feasible, demonstrated by:
 - (A) A timeline for project completion, including readiness; and
 - (B) Budget detail.

- (4) Qualifications of the staff who will be assigned or working on the proposed project.
- (5) Any other criteria to determine the proposed project's efficacy in evaluating the implementation and effect of the Act.
- (d) Applicants selected for funding will be notified in writing, along with the amount of the proposed funding.
- (e) The Bureau's selection decision is final and not subject to appeal.

Authority: Section 26013, Business and Professions Code and Section 34019, Revenue and Taxation Code; Reference: Section 34019, Revenue and Taxation Code.

§ 5903. Release of Funds

- (a) The Bureau shall not cause funds to be disbursed until the Applicant has executed a Grant Agreement, and any other required documents.
- (b) Selected recipients shall receive a single disbursement of funds for the duration of the research project.
- (c) Funds released to the recipient that will be used for the purchase of any equipment related to the research project, shall at a minimum, meet the following conditions:
 - (1) Prior to the purchase of any equipment, the recipient shall obtain written approval from the Bureau.
 - (2) Receipts or other documentation for the purchase of any equipment shall be provided to the Bureau immediately upon purchase and request, and retained pursuant to section 5904 of this division.
- (d) Any funds that are not used prior to the completion of the research project shall be forfeited.

Authority: Section 26013, Business and Professions Code and Section 34019, Revenue and Taxation Code; Reference: Section 34019, Revenue and Taxation Code.

§ 5904. Reports and Records

- (a) The recipient of funds shall provide regular performance reports to the Bureau.
 - (1) Performance reports shall be provided to the Bureau in the following manner:
 - (A) At monthly intervals for research projects with an estimated completion time not exceeding one year.
 - (B) At quarterly intervals for research projects with an estimated completion time exceeding one year.
 - (2) Performance reports shall include, at a minimum:
 - (A) A detailed, estimated time schedule of completion for the research project;

(B) Description of any measurable outcomes, results achieved, or other completed objectives of the research project;

(C) Description of remaining work to be completed;

(D) Summary of the expenditures of the funds, and whether the research project is meeting the proposed budget, and if not, the reasons for any discrepancies and what actions will be taken to ensure the research project will be completed; and

(E) Any changes to the information provided in the proposal, including, but not limited to, change in staff.

(b) Recipients shall publish annual reports on their findings, and upon the completion of their research project, and make such reports available to the public. Prior to publishing any reports, the recipient shall provide a copy to the Bureau, at least 30 days prior to the release or publishing of the report.

(c) Recipients shall retain all research and financial data necessary to substantiate the purposes for which the funds were spent, for the duration of the funding, and for a period of seven years after completion of the research project. Recipients shall provide such documentation to the Bureau upon request.

Authority: Section 26013, Business and Professions Code and Section 34019, Revenue and Taxation Code; Reference: Section 34019, Revenue and Taxation Code.

**Guidelines for the Validation of Chemical Methods
for the FDA FVM Program**

2nd Edition

**US Food & Drug Administration
Office of Foods and Veterinary Medicine**

April 2015

**Guidelines for the Validation of Chemical Methods
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ACKNOWLEDGMENT

The first edition of these guidelines published in 2011 and the second edition in 2015 were developed at the request of the US FDA Office of Foods and Veterinary Medicine. In cooperation with members of the Science and Research Steering Committee, direct input, review, and consent were provided by the following FDA research and regulatory offices:

Center for Food Safety and Applied Nutrition
Office of Regulatory Science
Office of Food Safety
Office of Applied Research and Safety Assessment

Center for Veterinary Medicine
Office of Research
Office of New Animal Drug Evaluation

Office of Regulatory Affairs
Office of Regulatory Science
ORA Laboratories

Guidelines for the Validation of Chemical Methods
for the FDA FVM Program, 2nd Ed.

APPROVAL PAGE

This document is approved by the FDA Foods and Veterinary Medicine (FVM) Science and Research Steering Committee (SRSC). The FVM SRSC Project Manager is responsible for updating the document as change requirements are met, and disseminating updates to the SRSC and other stakeholders, as required.

APPROVED BY:

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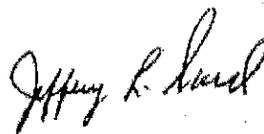
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ou=People, 0.9.2342.19200300.100.1.1=1300128995,
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Date: 2015.05.21 16:41:11 -0400

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**Guidelines for the Validation of Chemical Methods
for the FDA FVM Program, 2nd Ed.**

**US Food & Drug Administration
Office of Foods and Veterinary Medicine**

**Guidelines for the Validation of Chemical Methods
for the FDA FVM Program, 2nd Edition**

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1.0 INTRODUCTION

1.1 Purpose

The U.S. Food and Drug Administration (FDA) is responsible for ensuring the safety of approximately 80% of the nation's food supply. FDA laboratories contribute to this mission through routine surveillance programs, targeted regulatory analyses, and emergency response when contaminated food or feed is detected or suspected in a public health incident. The effectiveness of these activities is highly dependent on the quality and performance of the laboratory methods needed to support regulatory compliance, investigations and enforcement actions. To ensure that the chemical methods employed for the analysis of foods and feeds meet the highest analytical performance standards appropriate for their intended purposes, the FDA Office of Foods and Veterinary Medicine (OFVM) through the Science and Research Steering Committee (SRSC) has established criteria by which all Foods and Veterinary Medicine (FVM) Program chemical methods shall be evaluated and validated. This document defines four standard levels of performance for use in the validation of analytical regulatory methods for chemical analytes in foods and feeds.

1.2 Scope

These criteria apply to FDA laboratories as they develop and participate in the validation of analytical regulatory methods for chemical analytes in anticipation of Agency-wide FVM Program implementation. These criteria do not apply to methods developed by or submitted to FDA under a codified process or official guidance (e.g., in the Code of Federal Regulations, CPGs, etc.) such as for veterinary drug approval. For such studies, the appropriate Center for Veterinary Medicine (CVM) or other Program guidance documents should be followed. This guidance is a forward-looking document; the requirements described here will only apply to *newly*-developed methods and significant modifications to existing methods (see Requirements). Once a method has been validated at the appropriate level, it can be implemented according to OFVM document, FDA-OFVM-3, "Methods Development, Validation, and Implementation Program", which establishes a standard operating procedure for the methods development, validation and implementation process [1]. For example, for a multi-laboratory validated method to be used in a widespread regulatory application, it can be implemented by other FDA laboratories following the method verification process. However, method verification is normally part of a local laboratory's quality control procedures and is not considered within the scope of this validation document.

1.3 Administrative Authority and Responsibilities

All criteria established in this document for analytical method validation have been adopted and approved by the OFVM and the SRSC. The OFVM document, FDA-OFVM-3, establishes the standard operating procedure for the approval and tracking of method development and validation activities within the FVM Program [1]. Single laboratory validation (SLV) studies (including both Level 1 and Level 2 validations) can be managed wholly by the respective Center and Office line management structure. Oversight and coordination of multi-laboratory validation (MLV) studies (including both Level 3 and Level 4 validations) are the responsibility of the Methods Validation Subcommittees (MVS).

1.4 The Method Validation Subcommittee

Under the charge of the SRSC, the Chemistry Methods Validation Subcommittee (CMVS) will have oversight responsibility for MLV studies involving chemical methods associated

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with the FVM Program which are intended for use in a regulatory context. The CMVS is a subcommittee of the Chemistry Research Coordinating Group (CRCG), which reports directly to the SRSC. The CMVS is governed by the organizational structure, roles and responsibilities as detailed in its charter [2]. Briefly, the CMVS will oversee and coordinate, in collaboration with the originating laboratory, all MLV studies for chemical methods developed within the FDA OFVM Enterprise to support regulatory analytical needs. This includes the evaluation and prioritization of proposed MLV studies as well as evaluation of completed MLV studies and reports. Submissions of chemical validation proposals, reports, questions, etc. can be directed to the CMVS through a central email account:

Chemistry.mvs@fda.hhs.gov

However, where possible, MLVs should be discussed in appropriate Technical Advisory Groups or with the CRCG to ensure the broadest possible consideration of factors before committing resources to an MLV.

1.5 General Responsibility of the Originating Laboratory

It is the responsibility of the originating laboratory to ensure proper adherence to all criteria described in this document. The originating laboratory should work in consultation with the CMVS and/or its designated Technical Advisory Group (TAG) throughout the multi-laboratory validation process. It will be the responsibility of the originating laboratory to include their respective QA/QC manager in all aspects of the validation process.

1.6 Overview of Method Validation

Method validation is the process of demonstrating or confirming that a method is suitable for its intended purpose. The purpose of these methods may include but is not limited to qualitative analysis, quantitative analysis, screening analysis, confirmatory analysis, limit tests, matrix extensions, platform extensions, and emergency/contingency operations. Validation includes demonstrating performance characteristics such as accuracy, precision, sensitivity, selectivity, limit of detection, limit of quantitation, linearity, range, and ruggedness, to ensure that results are meaningful and appropriate to make a decision. Method validation is a distinct phase from method development/ optimization and should be performed *subsequent* to method development. Methods may be validated for one or more analytes, one or more matrices, and one or more instruments or platforms. The method is validated by conducting experiments to determine the specific performance characteristics that serve to define and quantify method performance.

1.7 Applicability

This document establishes validation criteria for regulatory methods that are to be widely used to detect chemical analytes in food, feed and other FDA regulated products covered by the FVM Program including, but not limited to, the following:

- Chemotherapeutic Residues
- Color Additives
- Decomposition Products
- Dietary Supplement Ingredients/Adulterants
- Elemental and Metals
- Food and Feed Additives and Preservatives
- Food Allergens
- Gluten

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Intentional Adulterants/Poisons
Mycotoxins
Nutrients
Persistent Organic Pollutants
Pesticides
Seafood and plant toxins
Toxic Elements
Veterinary Drug Residues

Please note that although these guidelines mainly cover multi-laboratory validations, criteria for several validation levels are discussed and are differentiated from full MLVs. There are situations where a method is being extended to handle what is likely to be a very limited (perhaps one time) use by one laboratory and is therefore not intended for Agency-wide regulatory use, thus would be validated at a lower level. For example, when a single pesticide laboratory receives several new food matrices for multi-residue analyses that were not covered in the previous validation of the method, these guidelines would not generally be required and a more abbreviated validation/verification within the pesticide program's guidelines may be acceptable.

1.8 Requirements

Method validation is required for:

- Submission of a new or original method.
- Expansion of the scope of an existing method to include additional analytes.
- Expansion of the scope of an existing method to include additional matrices.
- Changes in the intended use of an existing method (e.g., screening vs. confirmatory).
- Modifications to a method that may alter its performance specifications (e.g., modifications that could significantly affect the precision and accuracy, changes to the fundamental science of an existing method, significant changes to reagents, apparatus, instrumental parameters, sample preparation and/or extraction, or modification of a method's range beyond validated levels). Some examples of allowable modifications that would not require further validation are provided in the document, ORA-LAB.5.4.5 Attachment A-Modification Criteria [3].

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2.0 CRITERIA AND GUIDANCE FOR THE VALIDATION OF CHEMICAL METHODS

2.1 General Validation Tools and Protocol Guidance

There are a number of excellent references and guides available providing further information on method validation for chemical methods [3-20]. The following provides some general guidelines/tools that should be used to assess method performance:

General Protocol: Prepare and analyze method blanks, matrix blanks, reference materials (if available) and matrix spikes (using matrix blanks if available) of known concentration as generally described under the Methods Validation Levels section and Table 1 below. Accuracy or bias and precision are calculated from these results. Data will also be used to evaluate matrix effects and ruggedness/robustness of the method resulting from changes in the sample matrix.

The following general validation tools should be used to generate method performance characteristics as described in the Performance Characteristics section below.

Blanks: Use of various types of blanks enables assessment of how much of the result is attributable to the analyte in relation to other sources. Blanks are useful in the determination of limit of detection.

Reference materials and certified reference materials: The use of known reference materials (when available and applicable) should be incorporated to assess the accuracy or bias of the method, as well as for obtaining information on interferences.

Matrix Blank: This type of blank is a substance that closely matches the samples being analyzed with regard to matrix components. Matrix blanks are used to establish background level (presence or absence) of analyte(s) and to verify that sample matrix and equipment used does not interfere with or affect the analytical signal.

Matrix Spikes (Laboratory Fortified Matrix): Recovery determinations can be estimated from fortification or spiking with a known amount of analyte and calculation of spike recoveries. (Note: spike recovery may not be accurately representative of recovery from naturally incurred analytes.) Matrix effects can also be assessed with these samples. Accuracy or bias and precision are calculated from these results. The data can also be used to evaluate robustness of the method resulting from changes in the sample matrix.

Incurred Samples: This type of sample contains (not laboratory fortified) the analyte(s) of interest (if available) and can be used to evaluate precision and bias (if analyte concentration(s) are reliably known). Analyte recovery can also be evaluated through successive extractions of the sample and/or comparison to another analytical procedure with known bias.

Reagent Blank: This type of blank incorporates all reagents used in the method and is subjected to all sample processing operations. It serves to verify that reagents are analyte free and the equipment used does not interfere with or affect the analytical signal.

Replicate Analyses: The precision of the analytical process can be evaluated using replicate analyses. The originating laboratory should assure that adequate sample replicates are

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performed and that results from replicate measurements of each analyte are compared. Minimally, the method repeatability should be evaluated.

Interferences: Spectral, physical, and chemical interferences can be evaluated by analyzing samples containing various suspected interferences. Carryover should be evaluated using the incorporation of blanks immediately following standards and samples.

Statistics: Statistical techniques are employed to evaluate accuracy, trueness (or bias) precision, linear range, limits of detection and quantitation, and measurement uncertainty.

2.2 Reference Method

A reference method is a method by which the performance of an alternate or new method may be measured or evaluated. For chemical analytes, an appropriate reference method is not always identifiable or available. However, there are some instances in which the use of a reference method is appropriate such as when replacing a method specified for use in a compliance program. Consultation between the originating laboratory and the CMVS and the Program Office is suggested when deciding if the use of a reference method will be necessary.

2.3 Performance Characteristics

Performance characteristics that should be evaluated in order to validate a method will vary depending on the intended use of the method, the type of method (e.g., quantitative vs. qualitative), and the degree to which it has been previously validated (e.g., matrix extension, analyte extension, platform extension). Although definitions of these characteristics are included in Appendix 1, this document is not meant to address the various ways of calculating characteristics such as method detection level, limit of detection or limit of quantitation.

Performance Characteristics for Validation of New Quantitative Methods: Validation of new quantitative methods should include at a minimum evaluation of the following performance characteristics: accuracy, precision, selectivity, limit of detection, limit of quantitation, linearity (or other calibration model), range, measurement uncertainty, ruggedness, confirmation of identity and spike recovery.

Performance Characteristics for Validation of New Qualitative Methods: Validation of new qualitative methods should include at a minimum evaluation of the following performance characteristics: sensitivity, selectivity, false positive rate, false negative rate, minimum detectable concentration, ruggedness, and confirmation of identity.

Performance Characteristics for Validation of Method Extensions: Validating the extension of methods that have previously been validated requires a careful evaluation of the intended purpose of the extension. In cases where the sample preparation and/or the extraction procedure/analytical method is modified from the existing test procedure, it should be demonstrated that the modifications do not adversely affect the precision and accuracy of the data obtained. In order to implement the modified method, generally the standard or existing method is first performed. The modified method performance then is verified by comparison with that of the original method.

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2.4 Confirmation of Identity

Confirmation of identity for each analyte must be performed as part of the method validation for regulatory enforcement for both qualitative and quantitative methods. Unambiguous confirmation of identity usually requires analytically identifying key features of each analyte in the scope of the new method being validated such as with mass spectral fragmentation patterns or by demonstration of results in agreement with those obtained using an independent analysis.

FDA has issued guidance documents on the development, evaluation, and application of mass spectrometric methods for confirming the identity of target analytes including: CVM Guidance for Industry 118: Mass Spectrometry for Confirmation of the Identity of Animal Drug Residues [4] and ORA-LAB.010, Guidance for the Analysis and Documentation to Support Regulatory Action on Pesticide Residues [5]. Following the CVM guidance is required for veterinary drug residue methods. The ORA-LAB.010 document was written specifically for pesticide analyses. For other types of chemical contaminants in food (e.g. food additives, mycotoxins, etc.), the CVM document should be followed because it was written as a Guidance for Industry and therefore has been more widely internally and externally reviewed and distributed. In addition, OFVM is currently drafting a supplement to CVM Guidance for Industry 118 specifically addressing the use of high resolution mass spectrometry and the evaluation of exact mass measurement data.

2.5 Method Validation Levels

The following describes the four standard levels of performance defined for method validation of analytical regulatory methods for chemical analytes in foods. This approach is based on the Food Emergency Response Network (FERN), SOP No: FERN-ADM.0008.00, FERN Validation Guidelines for FERN Chemical, Microbiological, and Radiological Methods [6], as well as AOAC guidelines for single-laboratory validation [7] and collaborative studies [8]. Key validation parameters for each level are summarized in Table 1. It is the responsibility of the originating (developing) laboratory to determine the appropriate level of validation required up to and through single laboratory validations. It is highly recommended that originating laboratories work with the appropriate Technical Advisory Group when determining the appropriate level of validation.

NOTE: Not all methods will or should be validated to the highest level.

Level One

This is a single laboratory validation level with the lowest level of validation requirements and is appropriate for emergency/limited use. Performance of the method at this initial level of scrutiny will determine, in part, whether further validation is useful or warranted.

Intended Use: emergency/limited use/matrix extension/analyte extension/ platform extension. Examples of where Level One validation would be acceptable include, isolated consumer complaints, single-occurrence samples, and application of a method developed for a specific analyte(s) to a matrix, not previously validated in response to a real or perceived threat to food safety or public health. Validation of method performance with a new matrix is intended to assure that the new matrix will produce accurate and reliable results for all the analytes in the scope of the method. Generally, all targeted analytes still must be included in matrix spikes at this level, if widespread use in this matrix is anticipated for regulatory purposes. As the first level of validation of methods for matrix, analyte or platform extension/emergency use, it would be expected that a

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more rigorous single laboratory validation at least equivalent to Level Two below would be performed before more widespread non-emergency regulatory use.

Level Two

This is a single laboratory validation level. The originating lab has conducted a comprehensive validation study, with performance criteria similar to an AOAC Single Laboratory Validation study. If appropriate, a comparison with an existing reference method has been performed. Some of the criteria of the study may be at a lower level than the AOAC Single Laboratory Validation study, but are appropriate for the developing method at this stage.

Intended Use: Routine regulatory testing, emergency needs, minor method modifications, analyte and matrix extensions of screening methods. If a method validated at this level is expected to have use that is widespread, long term, of high public visibility or potentially involved in international trade conflicts, its validation should be extended to at least Level Three below.

Level Three

This is a multi-laboratory validation level. Level Three validation employs a minimum of one collaborating laboratory in addition to the originating laboratory. Most of the criteria followed by the originating lab are at a level similar to the AOAC full collaborative study level with comparison to an existing reference method when available and appropriate. The additional collaborating laboratories follow many of the criteria found in an AOAC collaborative study. The main differences are that Level Three validation employs at least one additional collaborating laboratory instead of the eight to ten used by AOAC and requires fewer replicates for each food matrix/spike level.

Intended Use: Methods validated to this level of scrutiny are acceptable for use in all regulatory circumstances including screening analyses, confirmatory analyses, regulatory surveys, and compliance support. If the method is expected to have use that is widespread, long term, of high public visibility or involved in international trade conflicts, it may be appropriate to have its validation extended to Level Four.

Level Four

This validation level has criteria equivalent to a full AOAC or ISO Collaborative Study. Any method reaching this level of validation should be able to be submitted for adoption by the AOAC as a fully collaborated method.

2.6 Acceptability Criteria

There are various acceptability ranges for method validation performance criteria that may be appropriate depending on the application or intended use of the methodology and especially the levels of concern, action levels or tolerance for the chemical analyte. Some examples of acceptability ranges used by various national and international organizations and their sources are provided in Appendix 2. Acceptable spike recoveries vary with analyte concentration as indicated in Appendix 2 (e.g., recoveries may fall in approximately the 80-120% range for quantitative methods at the 1 µg/g (ppm) concentration). Repeatability and reproducibility also vary with analyte concentration. The acceptability ranges in Appendix 2 provide approximate target ranges for method developers and the MVS and are not rigid binding guidelines. It is recognized that for some situations such as with difficult matrices, extremely low analyte concentrations (e.g., chlorinated dioxins, persistent organic

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pollutants), multi-residue methods and with emergency situations these general acceptability ranges may not be achievable or required.

Table 1. Key Validation Parameter Requirements for Chemical Methods

	Level One: Emergency/ Limited Use	Level Two: Single Laboratory Validation	Level Three: Multi-Laboratory Validation	Level Four: Full Collaborative Study
Number participating labs	1	1	≥ 2	8 (quantitative) 10 (qualitative)
Number of matrix sources per matrix*	≥1	≥3 recommended where available	≥3 recommended where available	≥3 recommended where available
Number of analyte(s) spike levels for at least one matrix source**	≥2 spike levels + 1 matrix blank	≥3 spike levels + 1 matrix blank	≥3 spike levels + 1 matrix blank	≥3 spike levels + 1 matrix blank
Replicates required per matrix source at each level tested per laboratory	≥2 (quantitative) ≥2 (qualitative)	≥2 (quantitative) ≥3 (qualitative)	≥2 (quantitative) ≥3 (qualitative)	≥2 (quantitative) ≥3 (qualitative)
Replicates required at each level tested per laboratory if only one matrix source used	≥4 (quantitative) ≥6 (qualitative)	≥6 (quantitative) ≥9 (qualitative)	≥3 (quantitative) ≥6 (qualitative)	≥2 (quantitative) ≥6 (qualitative)

*If a variety of food matrices with differing physical and chemical properties are selected, the number of sources for each food sample matrix may be one or more, but if only one food matrix is studied then ≥3 sources are recommended where available. The number of matrix sources may be reduced, particularly if it is difficult to obtain blank matrix sources, as long as the total number of spike levels and matrix combinations are adequate (e.g., 6 replicates or greater at each spike level for quantitative methods and 9 replicates or greater for qualitative methods).

** Number of spike levels is recommended for at least one source of matrix. Other similar sources of matrix (e.g., within the same category; see Appendix 4) may be studied at one or two spike levels (e.g., at an action/guidance or tolerance level or close to the lower limit of quantitation/detection).

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3.0 ADDITIONAL PROCEDURAL GUIDANCE

In addition to the criteria described above in Table 1 for standard quantitative and qualitative methods, additional guidance is provided in this section for specific types of methods or validation situations.

3.1 Platform/Instrumentation Extension

Expanding the use of a validated method to include another significantly different instrument or platform requires further validation. Such instances include the use of an instrument or platform similar in scope and function to that currently validated and approved for use; however, it may have major differences in configuration, or detection scheme.

Platform extension validation should generally be performed using Table 1, Level 2 as a guide and should compare the proposed new platform to the platform used in the reference method. In planning platform extension validation, one must determine what degree of cross-correlation between the results obtained on the two platforms will be acceptable.

Examples:

Method A is a validated method for the screening of pesticides on a gas chromatograph coupled to a single quadrupole mass spectrometer (GC-MSD). Gas chromatography coupled to a triple quadrupole mass spectrometer (GC-QQQ), offers certain advantages over the GC-MSD platform in terms of sensitivity, selectivity and scope. In this instance, a comparative method extension validation is indicated to ensure equivalent results. However, if new analytes are added to the scope of the method via the use of the new platform, a new method validation is indicated for the GC-QQQ method.

Method Z is a validated method for the screening of polycyclic aromatic hydrocarbons in seafood using liquid chromatography with a fluorescence detector (LC-FLD). A laboratory would like to transfer this method to a liquid chromatography system that utilizes only a diode-array detector (LC-DAD). In this instance, a comparative method extension validation would be indicated to ensure that the new detection system produces equivalent results to the originally validated method.

3.2 Analyte Extension

Multi-residue, multi-class methods are becoming more common. Many of these methods are semi-quantitative (limits tests) or qualitative broad band screens. Performance requirements for these types of procedures are described below. However, if a multi-residue method is meant to be used for quantitation, the same performance characteristics as required for single analyte methods should be evaluated for each analyte (accuracy, precision, selectivity, limit of detection, limit of quantitation, linearity range, uncertainty, and ruggedness). It is understood that with a large multi-residue method, not all analytes will meet the recommended acceptability ranges listed in Appendix 2, but the performance for each compound should be tested and reported so that the accuracy and precision are known for any given analyte and are sufficient for the intended purpose of the method.

When new analytes are added to a quantitative multi-residue method, tests should be performed to ensure that the addition of new compounds do not affect the performance of the instrumental conditions, e.g. duty cycle or scan rates for other eluting analytes, and that

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the analytes do not present a chemical or physical interaction with the stabilities of the other tested analytes.

3.3 Food Matrix Extension

The validation of method performance with a new matrix is intended to assure that the method will continue to produce accurate and reliable results. Emergency matrix extensions (Level 1 in Table 1) are intended for those instances in which a validated method is used with a matrix not previously validated in response to a real or perceived threat to food safety or public health, and in this type of urgent situation it is not expected that the MVS would be consulted. Matrix extensions of validated methods that are intended to increase the regulatory scope and applicability on a recurring basis would minimally fall under Level 2 validation in Table 1. This section provides guidance to extend validated methods to matrices in anticipation that these food commodities will be included in Agency-wide testing. Method developers may wish to consult with the appropriate Technical Advisory Group or MVS before initiating any Level 2 validation work on matrix extension.

It is generally assumed that the more closely related a new food matrix is to a previously validated matrix for a defined analyte, the greater the probability that the new matrix will behave similarly. It is also usually the case that the regulatory chemical methods employed by FDA are used to analyze a diversity of products representing a large spectrum of matrices. It becomes unfeasible to carry out a matrix extension validation for each single matrix in order to expand the scope of the method. A more reasonable approach to demonstrate the applicability of a method to a set of product matrices is to validate the method for different "categories" of products. For instance, a multi-residue pesticide method can be validated for "high-sugar", "high-fat", "high-water", "dry" and "high-protein" matrices. Appendix 4 provides guidance on commodity categories and gives examples of representative matrices in each category.

The number of different food categories to be validated depends on the applicability and intended use of the method. If the method is specific to only one category, only one type of food need be included. If the applicability is wider (e.g., detection of phthalates in processed foods), then an appropriate number of food categories should be included to represent all anticipated matrices. Depending on how many categories will be validated, a minimum of 1 – 3 representative matrices from each category should be selected.

3.4 Limit Tests (common semi-quantitative screening method)

One specific category of qualitative methods includes limit tests (binary or pass/fail tests) for analytes that have a defined level of concern. The purpose of these screening methods is to determine if analyte is present with a concentration near or above the level of concern. This is in contrast to screening methods whose intended purpose is to determine the presence or absence of an analyte at any level. Limit test method validations must include determination of the precision of the method for an analyte(s) at the level(s) of concern.

Limit test screening methods, in general, should avoid false negatives with false negative rates representing less than 5% of the analytical results. The occurrence of false positives is less critical since presumptive positives are further analyzed by quantitative or confirmatory methods. However, false positive rates should typically be less than 10-15% to avoid unnecessary confirmatory testing. Ideally, limit tests are capable of rapidly screening a large number of samples to minimize the need for additional analysis. A common approach used in limit test screening methods is to use a confidence interval to set a laboratory threshold or cut-off value whereby only responses above that value require further testing. For a limit

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test based on an instrument response, a threshold or cut-off value can be determined by a confidence limit, based on an estimate of the standard deviation of the response or concentration of an analyte in samples fortified with the analyte at the level of concern.

Example:

Milk samples (n=21) were fortified with sulfamethazine at the level of concern (10 ng/mL). A LC-MS/MS limit test screening method was used to measure this drug in the extracted milk samples. The mean concentration found was to be 10.99 ng/mL with a standard deviation of 2.19. A threshold or cut-off value was calculated so that 95% of samples containing sulfamethazine at or above 10 ng/mL would have a response above the threshold value:

$$\begin{aligned}\text{Threshold value} &= [\text{mean concentration} - (t * \text{standard deviation})] \\ &= [10.99 - (1.725 * 2.19)] = 7.21 \text{ ng/mL}\end{aligned}$$

Where t = one-tailed Student's t value for n-1 degrees of freedom at the 95% confidence level

This approach can also be used for immunosorbent assays such as enzyme linked immunosorbent assay (ELISA) or optical biosensor assays. These tests may be non-competitive (direct measurement of analyte response) or competitive (indirect measurement). Analysis of data from a competitive immunosorbent test should account for the fact that the observed response decreases with increasing analyte concentration; therefore, a response lower than the threshold or cut-off would be considered a presumptive positive response. For immunosorbent assays, it is also important to measure the response observed for blank matrix samples and to verify that the blank response is distinguishably (statistically) different from that of the threshold.

Performance characteristics of limit tests:

Validation of new limit tests should include, at a minimum, evaluation of the following performance characteristics: sensitivity, specificity, precision, threshold or cut-off value, false positive rate, false negative rate, minimum detectable concentration (should be lower than the threshold/cut-off value), and ruggedness/robustness.

3.5 Qualitative Broad-band Analyte Screening

Broad-band methods that can detect many compounds are being utilized more frequently as an initial screening step as part of chemical contaminant testing in FDA laboratories. These methods usually involve mass spectrometric analyses and provide qualitative information. For example, the data obtained may be compared to an established reference such as a database of compounds with exact mass and molecular formula information or spectra in a compiled library. For regulatory action, any positive findings from this screen should be confirmed by a targeted method (for example using a LC-MS/MS or GC-MS/MS platform).

Typically, initial validation of these methods is performed using a limited set of representative analytes and representative matrices. For example, sets of analytes that contain compounds from a variety of chemical classes from the area of interest (e.g. pesticides, veterinary drug residues, or common chemical toxins) are tested with the method using representative matrices. The performance characteristics that may be evaluated include: sensitivity, selectivity, false positive rate, false negative rate, minimum detectable concentration, ruggedness, and confirmation of identity. It is understood that the method

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performance may vary with the different classes of compounds, but it is important to have an initial evaluation of the method's capabilities.

Laboratories continuously expand the scope of these broad-band methods by adding new analytes that come to their attention through various sources of intelligence. In addition, a new compound might be found in a sample after acquired data are compared to the reference databases. In these cases, some verification that the analyte can be detected reliably by the screening method is required. When a new compound is added to the scope of a qualitative method, it should first be determined whether this compound belongs to a class of compounds that has already been validated for the broad-band method. If the new compound shares chemical characteristics with an existing class of compounds in the scope of the method, then it may suffice to select a few representative matrices, perform a single level spike in these representative matrices in duplicate and determine that reproducible recovery is obtained in order to assess whether the analyte can be detected effectively by the method. Scenarios that may require a full validation would include a new analyte being added to the scope of the broad-band method that was not represented by any of the compound classes already in the scope. Also, if the new analyte requires modifications in the extraction protocol due to its chemical characteristics, then its inclusion in the scope should be fully validated as recommended by this guidance.

Although positive findings by the broad-band method are subjected to confirmatory testing using a targeted method, it is still important to determine, through proper validation and verification protocols, that the broad-band method does not give rise to a high number of false negative findings. False negative in this context means the method fails to detect a residue in its scope when the residue is present in the matrix at or above the level of concern or minimum detectable concentration. While the positive finding by the broad-band method is subjected to further analysis and scrutiny, negative findings are upheld as such and a regulatory decision is made based on these results, *e.g.*, to release the products into commerce.

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APPENDIX 1 - Glossary of Terms

Generally, references 13-17 were utilized in preparation of this glossary.

Accuracy: The closeness of agreement between a test result and an accepted reference value. When applied to test results, accuracy includes a combination of random and systematic error. When applied to test method, accuracy refers to a combination of trueness and precision.

Action level: Level of concern or target level for an analyte that must be reliably identified or quantified in a sample.

Analyte: The chemical substance measured and/or identified in a test sample by the method of analysis.

Analytical batch: An analytical batch consists of samples, standards, and blanks which are analyzed together with the same method sequence and same lots of reagents and with the manipulations common to each sample within the same time period (usually within one day) or in continuous sequential time periods.

Bias: The difference between the expectation of the test result and the true value or accepted reference value. Bias is the total systematic error, and there may be one or more systematic error components contributing to the bias.

Blank: A substance that does not contain the analytes of interest and is subjected to the usual measurement process. Blanks can be further classified as method blanks, matrix blanks, reagent blanks, instrument blanks, and field blanks.

Calibration: Determination of the relationship between the observed analyte signal generated by the measuring/detection system and the quantity of analyte present in the sample measured. Typically, this is accomplished through the use of calibration standards containing known amounts of analyte.

Calibration Standard: A known amount or concentration of analyte used to calibrate the measuring/detection system. May be matrix matched for specific sample matrices.

Carryover: Residual analyte from a previous sample or standard which is retained in the analytical system and measured in subsequent samples. Also called *memory*.

Certified Reference Material (CRM): Reference material accompanied by documentation (certificate) issued by an authoritative body and providing one or more specified property values with associated uncertainties and traceability, using valid procedures. Note: Standard Reference Material (SRM) is the trademark name of CRMs produced and distributed by the National Institute of Standards and Technology (NIST).

Check Analysis: Result from a second independent analysis which is compared with the result from the initial analysis. Typically, check analyses are performed by a different analyst using the same method.

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Confirmation of Identity: Unambiguous identification of an analyte(s) by a highly specific technique such as mass spectrometry or by demonstration of results from two or more independent analyses in agreement.

Confirmatory Analysis/Method: Independent analysis/method used to confirm the result from an initial or screening analysis. A different method is often used in confirmation of screening results.

Cut-off Concentration: In qualitative analysis, the concentration of the analyte that is either statistically lower than the level of concern (for limit tests) or at which positive identification ceases (for confirmation of identity methods). See also *Threshold Value*.

False Negative Rate: In qualitative analysis, a measure of how often a test result indicates that an analyte is not present, when, in fact, it is present or, is present in an amount greater than a threshold or designated cut-off concentration.

False Positive Rate: In qualitative analysis, a measure of how often a test result indicates that an analyte is present, when, in fact, it is not present or, is present in an amount less than a threshold or designated cut-off concentration.

Fitness for Purpose: Degree to which data produced by a measurement process enables a user to make technically and administratively correct decisions for a stated purpose.

Guidance Level: Level of concern or action level issued under good guidance practices that must be reliably identified or quantified in a sample.

Incurred Samples: Samples that contain the analyte(s) of interest, which were not derived from laboratory fortification but from sources such as exogenous exposure or endogenous origin. Exogenous exposure includes, for example, pesticide use, consumption by an animal, or environmental exposure.

Interference: A positive or negative response or effect on response produced by a substance other than the analyte. Includes spectral, physical, and chemical interferences which result in a less certain or accurate measurement of the analyte.

Intermediate Precision: Within-laboratory precision obtained under variable conditions, e.g., different days, different analysts, and/or different instrumentation.

Internal Standard: A chemical added to the sample, in known quantity, at a specified stage in the analysis to facilitate quantitation of the analyte. Internal standards are used to correct for matrix effects, incomplete spike recoveries, etc. Analyte concentration is deduced from its response relative to that produced by the internal standard. The internal standard should have similar physico-chemical properties to those of the analyte.

Laboratory Fortified Matrix: See *Matrix Spike*.

Level of Concern: Level of concern is the concentration of an analyte in a sample that has to be exceeded before the sample can be considered violative. This concentration can be a regulatory tolerance, safe level, action level, guidance level or a laboratory performance level.

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Limit of Detection (LOD): The minimum amount or concentration of analyte that can be reliably distinguished from zero. The term is usually restricted to the response of the detection system and is often referred to as the *Detection Limit*. When applied to the complete analytical method it is often referred to as the *Method Detection Limit* (MDL).

Limit of Quantitation (LOQ): The minimum amount or concentration of analyte in the test sample that can be quantified with acceptable precision. Limit of quantitation (or quantification) is variously defined but must be a value greater than the MDL and should apply to the complete analytical method.

Limit Test: A type of semi-quantitative screening method in which analyte(s) has a defined level of concern. Also referred to as binary or pass/fail tests.

Linearity: The ability of a method, within a certain range, to provide an instrumental response or test results proportional to the quantity of analyte to be determined in the test sample.

Matrix: All the constituents of the test sample with the exception of the analyte.

Matrix Blank: A substance that closely matches the samples being analyzed with regard to matrix components. Ideally, the matrix blank does not contain the analyte(s) of interest but is subjected to all sample processing operations including all reagents used to analyze the test samples. The matrix blank is used to determine the absence of significant interference due to matrix, reagents and equipment used in the analysis.

Matrix Effect: An influence of one or more components from the sample matrix on the measurement of the analyte concentration or mass. Matrix effects may be observed as increased or decreased detector responses, compared with those produced by simple solvent solutions of the analyte.

Matrix Source: The origin of a test matrix used in method validation. A sample matrix may have variability due to its source. Different food matrix sources can be defined as different commercial brands, matrices from different suppliers, or in some cases different matrices altogether. For example, if a variety of food matrices with differing physical and chemical properties are selected, the number of sources for each food sample matrix may be one or more.

Matrix spike: An aliquot of a sample prepared by adding a known amount of analyte(s) to a specified amount of matrix. A matrix spike is subjected to the entire analytical procedure to establish if the method is appropriate for the analysis of a specific analyte(s) in a particular matrix. Also referred to as a *Laboratory Fortified Matrix*.

Method blank: A substance that does not contain the analyte(s) of interest but is subjected to all sample processing operations including all reagents used to analyze the test samples. An aliquot of reagent water is often used as a method blank in the absence of a suitable analyte-free matrix blank.

Method Detection Limit (MDL): The minimum amount or concentration of analyte in the test sample that can be reliably distinguished from zero. MDL is dependent on sensitivity, instrumental noise, blank variability, sample matrix variability, and dilution factor.

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Method Development: The process of design, optimization and preliminary assessment of the performance characteristics of a method.

Method Validation: The process of demonstrating or confirming that a method is suitable for its intended purpose. Validation includes demonstrating performance characteristics such as accuracy, precision, specificity, limit of detection, limit of quantitation, linearity, range, ruggedness and robustness.

Method Verification: The process of demonstrating that a laboratory is capable of replicating a validated method with an acceptable level of performance.

Minimum Detectable Concentration (MDC): In qualitative analysis, an estimate of the minimum concentration of analyte that must be present in a sample to ensure at a specified high probability (typically 95% or greater) that the measured response will exceed the detection threshold, leading one to correctly conclude that an analyte is present in the sample.

Precision: The closeness of agreement between independent test results obtained under specified conditions. The precision is described by statistical methods such as a standard deviation or confidence limit of test results. See also *Random Error*. Precision can be further classified as *Repeatability*, *Intermediate Precision*, and *Reproducibility*.

Qualitative Analysis/Method: Analysis/method in which substances are identified or classified on the basis of their chemical, biological or physical properties. The test result is either the presence or absence of the analyte(s) in question.

Quantitative Analysis/Method: Analysis/method in which the amount or concentration of an analyte may be determined (or estimated) and expressed as a numerical value in appropriate units with acceptable accuracy and precision.

Random error: Component of measurement error that in replicate measurements varies in an unpredictable manner. See also *Precision*.

Range: The interval of concentration over which the method provides suitable accuracy and precision.

Reagent Blank: Reagents used in the procedure taken through the entire method. Reagent Blanks are used to determine the absence of significant interference due to reagents or equipment used in the analysis.

Recovery: The proportion of analyte (incurred or added) remaining at the point of the final determination from the analytical portion of the sample measured. Usually recovery is expressed as a percentage.

Reference material: A material, sufficiently homogenous and stable with respect to one or more specified properties, which has been established to be fit for its intended use in a measurement process or in examination of nominal properties.

Reference standard: A standard, generally having the highest metrological quality available at a given location in a given organization, from which measurements are made or derived. Note: Generally, this refers to recognized national or international traceable

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standards provided by a standards producing body such as the National Institute of Standards and Technology (NIST).

Repeatability: Precision obtained under observation conditions where independent test results are obtained with the same method on identical test items in the same test facility by the same operator using the same equipment within short intervals of time.

Representative Analyte: An analyte used to assess probable analytical performance with respect to other analytes having similar physical and/or chemical characteristics. Acceptable data for a representative analyte are assumed to show that performance is satisfactory for the represented analytes. Representative analytes should include those for which the worst performance is expected. Representative analytes are used mostly for non-targeted analysis and unknown screening procedures.

Representative Matrix: Matrix used to assess probable analytical performance with respect to other matrices, or for matrix-matched calibration, in the analysis of broadly similar commodities. For food matrices, similarity is usually based on the amount of water, fats, protein, and carbohydrates. Sample pH and salt content can also have a significant effect on some analytes.

Reproducibility: Precision obtained under observation conditions where independent test results are obtained with the same method on identical test items in different test facilities with different operators using different equipment.

Ruggedness/Robustness: A measure of the capacity of an analytical procedure to remain unaffected by small but deliberate variations in method parameters and provides an indication of its reliability during normal usage.

Screening Analysis/Method: An analysis/method intended to detect the presence of analyte in a sample at or above some specified concentration (action or target level). Screening methods typically attempt to use simplified methodology for decreased analysis time and increased sample throughput.

Selectivity: The extent to which a method can determine particular analyte(s) in a mixture(s) or matrix(ces) without interferences from other components of similar behavior. Selectivity is generally preferred in analytical chemistry over the term *Specificity*.

Sensitivity: The change in instrument response which corresponds to a change in the measured quantity (e.g., analyte concentration). Sensitivity is commonly defined as the gradient of the response curve or slope of the calibration curve at a level near the LOQ.

Specificity: In quantitative analysis, specificity is the ability of a method to measure analyte in the presence of components which may be expected to be present. The term *Selectivity* is generally preferred over *Specificity*.

Spike Recovery: The fraction of analyte remaining at the point of final determination after it is added to a specified amount of matrix and subjected to the entire analytical procedure. Spike Recovery is typically expressed as a percentage. Spike recovery should be calculated for the method as written. For example, if the method prescribes using deuterated internal standards or matrix-matched calibration standards, then the reported analyte recoveries should be calculated according to those procedures.

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Standard: A substance of known identity and purity and/or concentration.

Standard Reference Material (SRM): A certified reference material issued by the National Institutes of Standards and Technology (NIST) in the United States. (www.nist.gov/SRM).

Systematic error: Component of measurement error that in replicate measurements remains constant or varies in a predictable manner. This may also be referred to as *Bias*.

Threshold Value: In qualitative analysis, the concentration of the analyte that is either statistically lower than the level of concern (for limit tests) or at which positive identification ceases (for confirmation of identity methods). See also *Cut-off Concentration*.

Trueness: The degree of agreement of the mean value from a series of measurements with the true value or accepted reference value. This is related to systematic error (bias).

Uncertainty: Non-negative parameter characterizing the dispersion of the values being attributed to the measured value.

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APPENDIX 2 – Examples of Acceptability Criteria for Certain Performance Characteristics

Examples of acceptability criteria are found in references 7,9,10,14 and 18. No single set of acceptability is going to be truly applicable to all methodology covered in the FVM program. However a good starting point for many methods is found in the Codex Alimentarius Commission, Procedural Manual, Twenty-second ed., 2014 [10]

A. Quantitative Method Acceptability Criteria

Table A2.1. Method Criteria for Method Levels at Increasing Orders of Magnitude
(reproduced in part from reference 10, Table 4, p. 72 and reference 7)

ML[*] unit	0.001 mg/kg	0.01 mg/kg	0.1 mg/kg	1 mg/kg	10 mg/kg	100 mg/kg	1 g/kg	10 g/kg
Alternative ML[*] unit	1 ppb	10 ppb	100 ppb	1 ppm	10 ppm	100 ppm	0.1%	1 %
Concentration ratio of ML (C_{ML})	10 ⁻⁹	10 ⁻⁸	10 ⁻⁷	10 ⁻⁶	10 ⁻⁵	10 ⁻⁴	10 ⁻³	10 ⁻²
Minimum applicable range	From 0.0006 to 0.0014 mg/kg	From 0.006 to 0.014 mg/kg	From 0.03 to 0.17 mg/kg	From 0.52 to 1.48 mg/kg	From 6.6 to 13.3 mg/kg	From 76 to 124 mg/kg	From 0.83 to 1.2 g/kg	From 8.8 to 11 g/kg
LOD (≤ mg/kg)	0.0002	0.002	0.01	0.1	1	10	100	1000
LOQ (≤ mg/kg)	0.0004	0.004	0.02	0.2	2	20	200	2000
RSD_r^{**}	22%	22%	11%	8%	6%	4%	3%	2%
PRSD_R[‡]	22%	22%	22%	16%	11%	8%	6%	4%
RSD_R^{**}	≤ 44%	≤ 44%	≤ 44%	≤ 32%	≤ 22%	≤ 16%	≤ 12%	≤ 8%
Recovery	40%-120%	60%-115%	80%-110%	80%-110%	80%-110%	90%-107%	95%-105%	97%-103%

* ML is a method level and can be defined for the analyte(s)/sample matrix(es) combination as a maximum level, minimum level, normative level or concentration range depending on the intended use of the method.

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*The RSD_r or Repeatability Precision refers to the degree of agreement of results when conditions are maintained as constant as possible within a short period of time (e.g., relative standard deviation of replicates or best precision exhibited by a single laboratory). Typically, acceptable values for RSD_r are between ½ and 2 times the value shown (HorRat_r = RSD_r (found, %)/ RSD_r (calculated, %)). For concentration ratios ≥ 10⁻⁷ Horwitz theory is applied. For concentration ratios < 10⁻⁷, Thompson theory is applied.

#The PRSD_R or Predicted Relative Reproducibility Standard Deviation is based on the Horwitz/Thompson equation. For concentration ratios < 10⁻⁷, Thompson theory is applied.

The RSD_R or Reproducibility Precision refers to the degree of agreement of results when operating conditions are as different as possible (e.g., same test samples in different laboratories) and should be calculated from the Horwitz/Thompson equation. When the Horwitz/Thompson equation is not applicable (for an analytical purpose or according to a regulation) or when "converting" methods into criteria then it should be based on the RSD_R from an appropriate method performance study. The ratio between the found and predicted value should be ≤ 2. (HorRat_R = RSD_R / PRSD_R ≤ 2)

B. Qualitative Method Acceptability Criteria

There are significantly fewer examples of acceptability criteria for qualitative methods available. AOAC is using a relatively new Probability of Detection (POD) model as a way to characterize the performance of qualitative methods [9].

As discussed above, limit test screening methods, in general, should minimize false negatives particularly at the level of concern or reporting level. The occurrence of false positives is less critical since presumptive positives are further analyzed by quantitative or confirmatory methods. However, false positive rates should typically be less than 10-15% in order to avoid unnecessary confirmatory testing (14, 18).

Table A2.2. General Method Criteria for Limit Tests/Screening Methods

False Negative Rate	≤ 5% at the level of concern ¹
False Positive Rate	≤ 10-15%

¹ Acceptable false negative rate depends significantly on the intended purpose of the method.

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APPENDIX 3 - Examples of Validation Plans

A. Extension to other matrices with the same analyte(s) at Level One Validation

This scheme represents an emergency use method extension plan for Matrix Y and Analyte Z. This plan utilizes two different sources of matrix. *In cases where a representative matrix is being used to characterize a whole family of commodities, it is recommended that additional, different commodities from that family are used as "sources".* Note that this plan is for emergency use only – the new matrix (or matrices) cannot be officially included in the scope of the method until at the minimum a Level Two Validation is performed.

Table A3.1. Plan for Matrix Extension (Level One Validation, Example)

	Matrix	Samples 1 & 2	Analyte Z Fortified Samples 3 & 4	Analyte Z Fortified Samples 5 & 6	Analyte Z Fortified Samples 7 & 8
Day 1	Matrix Y (Source 1)	Blank	½X Spike Level	X Spike Level	2X Spike Level
Day 1	Matrix Y (Source 2)	Blank	½X Spike Level	X Spike Level	2X Spike Level

Notes:

- i. Test portion matrices listed as Matrix Y represent 2 different commercial brands.
- ii. Fortification levels: fortification will be at the level of concern or action level (X) as stated in the method and at levels corresponding to 1/2X and 2X.
- iii. Fortification of each matrix can be done on the same day.
- iv. Other fortification plans meeting requirements specified in Table 1 may be used.

B. Extension to similar analytes in the same matrix at Level Two Validation

A validated method can be extended to other potential analyte(s) belonging to the same chemical group. For example, a toxin method can be extended to other toxins. An example of the composition of a set of validation studies for method extension is shown in the following table for new analytes Y and Z in canned corn from 3 different sources where the method is validated originally for analyte A in corn.

Table A3.2. Plan for Extension to Similar Analytes (Level Two Validation, Example)

	Matrix	Analyte Y fortification levels	Analyte Z fortification levels
Day 1	Corn 1,2,3	0, 1/2X, X, 2X	0, 1/2X, X, 2X
Day 2	Corn 1,2,3	0, 1/2X, X, 2X	0, 1/2X, X, 2X

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Day 3	Corn 1,2,3	0, 1/2X, X, 2X	0, 1/2X, X, 2X
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Notes:

- i. Three different commercial brands of same product will be analyzed.*
- ii. Fortification levels: fortification will be at the level of concern or action level (X) as stated in the method and at levels corresponding to 1/2X and 2X.*
- iii. Each analyte will be analyzed in blank matrix and at 1/2X, X and 2X fortification levels.*
- iv. Simultaneous analysis of the analytes can be undertaken if warranted.*
- v. Other fortification plans meeting requirements specified in Table 1 may be used.*

C. Validation at Level Two for single matrix and single analyte

This plan utilizes 3 different commercial brands of one matrix. The single matrix is being validated for a single analyte.

Table A3.3. Plan for Single Matrix and Single Analyte Level Two Validation (Example)

	Matrix 1 Source 1	Matrix 1 Source 2	Matrix 1 Source 3
Day 1	Blank Fortified (X)	Fortified (X) Fortified (2X)	Blank Fortified (1/2X)
Day 2	Fortified (2X) Fortified (1/2X)	Blank Fortified (1/2X)	Blank Fortified (2X)
Day 3	Fortified (1/2X) Fortified (X)	Fortified (2X) Blank	Fortified (X) Fortified (X)
Day 4	Fortified (2X) Blank	Fortified (X) Fortified (1/2X)	Fortified (2X) Fortified (1/2X)

Notes:

- i Sample matrix, represents one matrix from 3 different sources of matrix.*
- ii Fortification levels: fortification will be at the level of concern or action level (X) as stated in the method and at levels corresponding to 1/2X and 2X.*
- iii Each of 3 different sources of matrix will be analyzed 8 times (replicate analyses) over the course of experiment, two times unfortified, two times fortified at each level.*
- iv. The validation will take place over a period of 4 days.*
- v. Other fortification plans meeting requirements specified in Table 1 may be used.*

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APPENDIX 4 – Selection of Representative Matrices

Two tools that can aid in selection of representative matrices and CRMs when designing a validation protocol for a method intended to have applicability to a broad scope of products are shown below. Food composition varies greatly making the validation of methods intended for a wide variety of foods a difficult balance between available resources and sufficient validation with a variety of food types.

A. Commodity groups and representative commodities

Table A4.1. Vegetable and Fruits, Cereals and Food of Animal Origin (reproduced in part from reference 14)

Commodity groups	Typical commodity categories	Typical representative commodities
1. High water content	Pome fruit	Apples, pears
	Stone fruit	Apricots, cherries, peaches
	Other fruit	Bananas
	Alliums	Onions, leeks
	Fruiting vegetables/cucurbits	Tomatoes, peppers, cucumber, melon
	Brassica vegetables	Cauliflower, Brussels sprouts, cabbage, broccoli
	Leafy vegetables and fresh herbs	Lettuce, spinach, basil
	Stem and stalk vegetables	Celery, asparagus
	Forage/fodder crops	Fresh alfalfa, fodder vetch, fresh sugar beets
	Fresh legume vegetables	Fresh peas with pods, peas, mange tout, broad beans, runner beans, French beans
	Leaves of root and tuber vegetables	Sugar beet and fodder beet tops
	Fresh Fungi	Champignons, canterelles
	Root and tuber vegetables or feed	Sugar beet and fodder beet roots, carrots, potatoes, sweet potatoes
2. High acid content and high water content	Citrus fruit	Lemons, mandarins, tangerines, oranges
	Small fruit and berries	Strawberry, blueberry, raspberry, black currant, red currant, white currant, grapes
	Other	Kiwifruit, pineapple, rhubarb

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Table A4.1. Vegetable and Fruits, Cereals and Food of Animal Origin (continued)

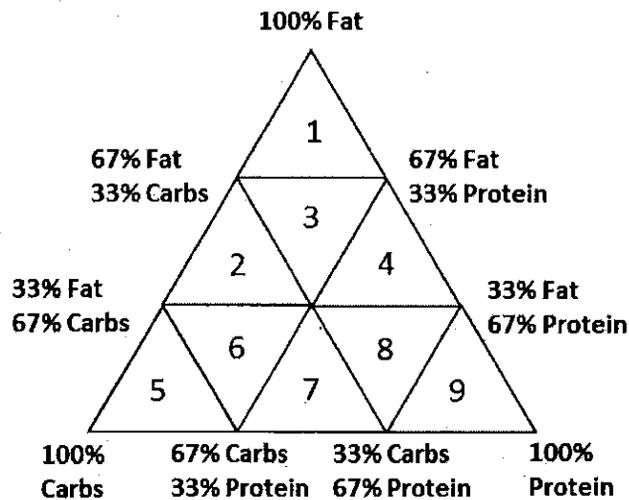
Commodity groups	Typical commodity categories	Typical representative commodities
3. High sugar and low water content	Honey, dried fruit	Honey, raisins, dried apricots, dried plums, fruit jams
4a. High oil content and very low water content	Tree nuts	Walnuts, hazelnuts
	Oil seeds	Oilseed rape, sunflower, cotton-seed, soybeans, peanuts, sesame, etc.
	Pastes of tree nuts and oil seeds	Peanut butter, tahini, hazelnut paste
	Oils from tree nuts, oil seeds and oily fruits	Olive oil, rapeseed oil, sunflower oil, pumpkin seed oil
4b. High oil content and intermediate water content	Oily fruits and products	Olives, avocados and pastes thereof
5. High starch and/or protein content and low water and fat content	Dry legume vegetables/pulses	Field bean, dried broad bean, dried haricot bean (yellow, white/navy, brown, speckled), lentils
	Cereal grain and products thereof	Wheat, rye, barley and oat grain; maize, rice, whole meal bread, white bread, crackers, breakfast cereals, pasta
6. "Difficult or unique commodities"		Hops, cocoa beans and products thereof, Coffee, tea, spices
7. Meat (muscle) and Seafood	Red muscle	Beef, pork, lamb, game, horse
	White muscle	Chicken, duck, turkey
	Offal	Liver, kidney
	Fish	Cod, haddock, salmon, trout
	Crustaceans	Shrimp, scallop, crab
8. Milk and milk products	Milk	Cow, goat and buffalo milk
	Cheese	Cow and goat cheese
	Dairy products	Yogurt, cream
9. Eggs	Eggs	Chicken, duck, quail, and goose eggs
10. Fat from food of animal origin	Fat from meat	Kidney fat, lard
	Milk fat	Butter
	Fish oil	Cod liver oil

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B. AOAC Food Matrix Triangle

The AOAC Food Matrix Triangle (Figure A4.1) can be used to categorize foods and food matrix reference materials into nine sectors based on relative fat, protein and carbohydrate content [9, 19, 20]. This tool can be useful in the validation of methods intended for a wide variety of food matrices and to help in categorizing similar food matrices for methods intended for more limited applicability.

Figure A4.1. Foods Partitioned into Sectors Based on Their Protein, Fat, and Carbohydrate Content



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for the Detection of Microbial Pathogens in Foods
and Feeds**

2nd Edition

**US Food & Drug Administration
Office of Foods and Veterinary Medicine**

April 2015

Guidelines for the Validation of Analytical Methods for the Detection of Microbial Pathogens in Foods and Feeds, 2nd Ed.

ACKNOWLEDGMENT

The first edition of these guidelines published in 2011 and the second edition in 2014 were developed at the request of the U.S. FDA Foods and Veterinary Medicine Program. In cooperation with members of the Science and Research Steering Committee, direct input, review, and consent were provided by the following FDA microbiology research and regulatory offices:

Center for Food Safety and Applied Nutrition

Office of Applied Research and Safety Assessment

Office of Food Safety

Office of Regulatory Science

Center for Veterinary Medicine

Office of Research

National Center for Toxicological Research

Division of Microbiology

Office of Regulatory Affairs

Office of Regulatory Science

ORA Cadre of Microbiology Subject Matter Experts

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APPROVAL PAGE

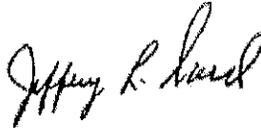
This document is approved by the FDA Foods and Veterinary Medicine (FVM) Science and Research Steering Committee (SRSC). The FVM SRSC Project Manager is responsible for updating the document as change requirements are met, and disseminating updates to the SRSC and other stakeholders, as required.

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US Food & Drug Administration Office of Foods and Veterinary Medicine

Guidelines for the Validation of Analytical Methods for the Detection of Microbial Pathogens in Foods and Feeds Second Edition

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1.0 INTRODUCTION

1.1 Purpose

The Foods and Veterinary Medicine (FVM) Enterprise within the U.S. Food & Drug Administration is responsible for ensuring the safety of the nation's food and feed supply. FDA accomplishes this through education; inspection; data collection; standards setting; prompt investigation of outbreaks; and, enforcement actions when appropriate. The effectiveness of the FVM Enterprise is highly dependent on the quality and performance of the laboratory methods used within the FDA. To ensure that all laboratory methods meet the highest analytical standards possible for their intended purpose, the FDA Office of Foods and Veterinary Medicine (OFVM) through the Science and Research Steering Committee (SRSC) has established these criteria by which all FVM microbiological methods shall be evaluated and validated.

1.2 Scope

These criteria apply to all FDA laboratories that develop and participate in the validation of analytical food and feed methods for Agency-wide implementation in a regulatory capacity. This includes all research laboratories, and ORA labs where analytical methods may be developed or expanded for potential regulatory use. At the time of final approval by the OFVM and the SRSC, this document will supersede all other intra-agency documents pertaining to food- and feed-related method validation criteria for microbial analytes. In addition, this guidance is a forward-looking document; the requirements described here will only apply to newly-developed methods and those for which significant modifications have been made to an existing method. Once a method has been validated, it can be implemented by other laboratories following the method verification process.

1.3 Administrative Authority and Responsibilities

All criteria established in this document for analytical method validation have been adopted and approved by the OFVM and the SRSC. As stated in the Methods Development, Validation and Implementation Program SOP (APPENDIX 3), The Method Validation Subcommittee (MVS) will have oversight responsibility for all collaborative validation studies (See Section 2.2.2.3).

1.4 The Method Validation Subcommittee

Under the authority of the SRSC, a Microbiology Methods Validation Subcommittee (MMVS) will oversee all microbiology method validation concerns. The MMVS is governed by the organizational structure, roles and responsibilities as detailed in its charter (See APPENDIX 2). Briefly, the MMVS will oversee and coordinate – in collaboration with the originating laboratory – all collaborative laboratory validation studies (planning and implementation) for microbiological methods developed within the FDA FVM Enterprise to support regulatory analytical needs. This includes the evaluation of Single Laboratory Validation (SLV) results and the evaluation of any subsequent collaborative validation study plan. Unless

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otherwise stated, most correspondence between the method developer(s) and the MMVS will be by email using the following address:
Microbiology.MVS@fda.hhs.gov.

1.5 General Responsibility of the Originating Laboratory

It is the responsibility of the originating (developing) laboratory to ensure proper adherence to all criteria described in the document. The originating laboratory must work in close consultation with the MMVS and/or its designated Technical Advisory Group (TAG) throughout the collaborative laboratory validation process. It will be the responsibility of the originating laboratory to include their respective QA/QC manager in all aspects of the validation process and to ensure proper adherence to all criteria described in this document.

1.6 Method Validation Definition

Method validation is a process by which a laboratory confirms by examination, and provides objective evidence, that the particular requirements for specific uses are fulfilled. It serves to demonstrate that the method can detect and identify an analyte or analytes:

- In one or more matrices to be analyzed.
- In one or more instruments or platforms.
- With a demonstrated sensitivity, specificity, accuracy, trueness, reproducibility, ruggedness and precision to ensure that results are meaningful and appropriate to make a decision.
- Reliably for its intended purpose. Intended purpose categories include, but may not be limited to emergency/contingency operations; rapid screening and high throughput testing; and confirmatory analyses.
- After the method developer has conducted experiments to determine or verify a number of specific performance characteristics that serve to define and/or quantify method performance.

1.7 Applicability

This document establishes evaluation criteria for methods to detect, identify, and quantify all microbial analytes that may now be, or have the potential to be associated with foods and feeds *i.e.* any microbiological organism of interest (target organism) or the genetic material *i.e.* DNA, RNA, toxins, antigens, or any other product of these organisms. If not specifically identified, all information contained in the accompanying tables should be extrapolated to the microbial analyte of interest. Such applicable areas of methods development and evaluation include, but are not limited to, the following:

- Qualitative assays *i.e.* detection assays
- Quantifiable assays *i.e.* real-time PCR
- Analyte-specific

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- Bacteriological, e.g.
 - *Salmonella* spp.
 - Pathogenic *Escherichia coli*
 - *Listeria monocytogenes*
 - *Shigella* spp.
 - *Vibrio* spp.
 - *Campylobacter* spp.
- Microbial toxins (excluding marine biotoxins. See Chemistry method validation guidelines)
- Viral pathogens, e.g.
 - Hepatitis A virus
 - Norovirus
 - Enterovirus
- Parasitic protozoan pathogens, e.g.
 - *Cryptosporidium*
 - *Cyclospora cayetanensis*
- Indicator organisms
- Bioengineered analytes, e.g.
 - Genetically-modified foods (GMOs)
- Applications
 - Pre- and selective enrichment
 - Microbial analyte recovery and concentration
 - Screening, high-throughput, confirmation
- Procedures
 - Phenotypic, e.g.
 - Biochemical characterization for identification
 - Antibiotic resistance traits for identification
 - Antigenic characterization for identification
 - Genetic, e.g.
 - Nucleic acid isolation/concentration/purification
 - Polymerase Chain Reaction
 - Conventional
 - Real-time
 - Reverse transcription
 - Sequencing, e.g.
 - Whole genome
 - Selective sequencing
 - Single nucleotide polymorphism (SNP) analysis
 - Strain-typing applications
- Immunological
 - Antibody capture
 - ELISA
 - Flow cytometry

1.8 Requirements

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Method validation shall be required for:

- Submission of a new or alternate method.
- Major modifications to an existing, validated method (See Section 5.0).

2.0 CRITERIA AND GUIDANCE FOR THE VALIDATION OF FDA-DEVELOPED METHODS

This section provides validation criteria and guidance for all FVM-developed or any existing validated method(s) that has been significantly modified (See Section 5.0).

2.1 Validation Definitions

2.1.1 The Reference Method

The reference method is defined as that method by which the performance of an alternate method is measured or evaluated. Validation studies must include comparison to a recognized reference method to demonstrate equivalence or increased performance, the significance of which must be determined statistically. For bacterial analytes, reference methods are generally culture-based and result in a pure isolate. The FDA Bacteriological Analytical Manual (BAM), the USDA Microbiology Laboratory Guidebook (MLG) and ISO culture methods contain recognized reference culture methods. FDA BAM reference methods take precedence over all other reference methods unless otherwise determined by the MMVS. It is recognized that this requirement may either not be practical or possible in all instances. In such cases, consultation between the originating laboratory and the MMVS will be necessary to define the most appropriate reference method. **All** new methods **must** be validated against an agreed-upon reference method if existing.

2.1.2 The Alternate Method

The alternate method refers to the newly developed or modified method that is to be evaluated against the performance of a recognized reference method by a defined validation process.

2.1.3 The Originating Laboratory

The originating laboratory refers to the laboratory that developed the method and has completed the SLV requirements.

NOTE: An "originating laboratory" can be more than a single laboratory when 2 or more laboratories combine their resources to develop and validate a method. In such cases, none of the laboratories so combined may act as a Collaborating Laboratory.

2.1.4 The Collaborating Laboratory

The collaborating laboratory refers to the laboratory (or laboratories) other than the originating laboratory involved in multi-laboratory method validation studies.

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2.2 The Method Validation Process

Within the FVM Enterprise, method validation exercises confirm by examination (and the provision of objective evidence) that the particular requirements for a method have been fulfilled. All methods used by the FDA in support of its regulatory and compliance roles must be validated according to the guidelines established by the FVM Enterprise. Three levels of scrutiny are defined below and serve to demonstrate that the method can detect, identify and, where applicable, quantify an analyte or analytes to a defined standard of performance. The hierarchy of criteria within the validation process also provides general characteristics on the method's utility and insights for its intended use.

2.2.1 Emergency Usage (Level One)

This level has the lowest level of validation. All the work will have been done by one or more labs. Sensitivity and specificity (inclusivity and exclusivity) has been tested, but only included a limited number of strains. The MMVS, Agency subject matter experts (SMEs) and the originating laboratory may identify additional criteria for evaluation. Once the crisis has past and it has been determined that there is a need for further validation, procedures outlined in this document must be followed.

Intended Use: Emergency needs. These are methods developed or modified for the detection of an analyte, or a matrix not previously recognized or identified as a threat to food safety or public health. Performance of the method at this level will determine, in part, whether further validation is useful or warranted.

NOTE: *Under emergency situations where the rapid development and deployment of a method is needed to immediately address an outbreak event, Level 1 - Emergency Use criteria should be followed as closely as the situation will allow.*

2.2.2 Method Validation Levels (for Non-Emergency Use Methods)

2.2.2.1 Single-laboratory Validation (Level Two - Part a)

The originating lab has done a more comprehensive initial study with defined inclusivity/exclusivity levels as shown in Tables 1. If available, a comparison has been done to an existing reference method. Results of the SLV has been evaluated and approved by the MMVS. This is the first step in the validation process for methods designed for routine regulatory applications.

Intended Use: Methods validated to this level of scrutiny can be used immediately for emergencies. Slightly higher false-positive rates may be acceptable as all samples analyzed will require confirmatory testing.

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2.2.2.2 Independent Laboratory Validation (Level Two - Part b)

One other independent laboratory has participated in the validation study using the method of the originating lab and criteria described in Table 1. Successful completion of this level of scrutiny and the approval of the MMVS are prerequisite steps prior to any collaborative validation study.

Intended Use: Methods validated to this level of scrutiny can be used immediately for emergencies. Slightly higher false-positive rates may be acceptable as all samples analyzed will require confirmatory testing.

2.2.2.3 Collaborative Validation Study (Level Two – Part c)

A Collaborative study is an inter-laboratory study in which each laboratory uses the defined method of analysis to analyze identical portions of homogeneous materials to assess the performance characteristics obtained for that method of analysis (W. Horwitz, IUPAC, 1987). It is designed to measure inter-laboratory reproducibility, so that it can be determined if the method can be successfully performed by laboratories other than the originating laboratory. For methods having more than one sample preparation or enrichment scheme, it is necessary to test one matrix per sample preparation or enrichment scheme.

The criteria defined for this level of scrutiny (to be performed by the originating and collaborating labs) are closely aligned with other recognized and established validation criteria for collaborative studies e.g. AOAC, ISO. This includes criteria for inclusivity/exclusivity, analyte contamination levels, competitor strains, aging, and a comparison to an existing, recognized reference method when available.

Intended Use: All methods validated to this level of scrutiny are acceptable for use in any and all regulatory circumstances e.g. confirmatory analyses; regulatory sampling, outbreak investigations, and surveillance and compliance support.

2.3 Validation Criteria

Tables 1, 2, 3 and 4 contain the general criteria that must be met in order to successfully achieve a defined level of validation for a new or modified method. Table 1 describes general guidelines for qualitative methods to detect conventional microbial foodborne pathogens. Table 2 applies to detection methods for microbial analytes that face unique isolation and/or enrichment challenges. Table 3 describes general guidelines for identification or confirmatory methods. Table 4 describes general guidelines for quantifiable methods. The criteria contained within these tables also distinguish between qualitative and quantifiable methods; and, those requirements to be carried out by the originating and collaborating laboratories respectively.

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2.3.1 Validation Criteria for Qualitative Methods to Detect Conventional Microbial Food-borne Pathogens

2.3.1.1 Definition

A method that identifies analyte(s) based on chemical, biological, or physical properties; method of analysis whose response is either the presence or absence of the analyte detected either directly or indirectly in a certain amount of sample. Most qualitative methods are or can be made at least "semi-quantitative" to provide rough estimates of the amount of analyte present.

2.3.1.2 Criteria

Tables 1 pertains to bacterial pathogens (and other pathogenic microorganisms) that meet the following general characteristics:

- Not limited by strain availability; ability to fully comply with inclusivity and exclusivity requirements.
- Are capable of cultural enrichment in a timely manner.
- Can be enumerated.

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Table 1- General Guidelines for the Validation of Qualitative Detection Methods for Microbial Analytes

	Emergency	Non-Emergency Validation Processes		
Criteria	Emergency Use	Single Laboratory Validation Study	Independent Laboratory Validation Study	Collaborative Validation Study
Participating Laboratory	Originating Laboratory	Originating Laboratory	Collaborating Laboratory	Collaborating Laboratories
# of target organism (inclusivity) ^a	[†] TBD	50 (unless 50 aren't available) ^{b,c}	[†] NA	[†] NA
# of non-target organism (exclusivity) ^a	[†] TBD	30 strains ^d	[†] NA	[†] NA
# of laboratories providing usable data	1	1	1	10
# of foods	1 or more ^e	1 or more ^e	1 or more ^e	1 or more ^e
# of analyte levels/food matrix	[†] TBD	Two inoculated levels ^f and one uninoculated level	Two inoculated levels ^f and one uninoculated level	3 levels: One inoculated level ^f , one at 1 log higher ^g and one uninoculated level
Replicates per food at each level tested	[†] TBD	20 for the fractional level (5 each for the uninoculated and high levels)	20 for the fractional level (5 each for the uninoculated and high levels)	8
Aging of inoculated samples prior to testing	No	Yes ^h	Yes ^h	Yes ^h
Addition of competitor strain ⁱ	Normal background flora	In 1 food at +1 log>analyte at fractional positive ^j analyte level	In 1 food at +1 log>analyte at fractional positive ^j analyte level	In 1 food at +1 log>analyte at fractional positive ^j analyte level
Reference Method Comparison Requirement ^k	[†] TBD	Yes, if available	Yes, if available	Yes, if available

^aUsing pure cultures without a food matrix.

^bEach at 10³ CFU/mL following the method protocol (1 log₁₀ above the LOD for other methods); or 10³ CFU/reaction for molecular methods e.g. PCR.

^c100 serotypes for Salmonella testing.

^dAt 10³ CFU/mL for non-target organisms grown in a non-selective rich medium.

^eFor FDA regulatory use, methods are only valid for foods that have been tested; the MMVS may require that a new method be validated for 3 foods within a food category (See APPENDIX 5). See Section 5 for further guidance on matrix extension criteria.

^fMust be adjusted to achieve fractional positive results (one or both methods i.e. the reference and alternate methods must yield 50%±25% of tests positive) at this level; the high level inoculum should be approximately 1 log greater than that used to achieve fractional results. All 5 replicates at the high inoculum should yield positive results.

^gAll test samples inoculated at this level must yield 100% positive results

^hPeriod of aging depends on food being tested. Perishable foods should be aged under refrigeration for 48 – 72 h. Frozen and shelf stable foods should be aged for a minimum of 2 weeks at -20°C or at room temperature, respectively.

ⁱAn appropriate competitor is one that gives similar reactions in enrichment and detection systems. Natural background microflora can fulfill this requirement as long as it present in the matrix at a level 1 log greater than the target analyte.

^jIndependent Laboratory and Collaborative Validation Studies should use the most effective reference method available.

^kTBD to be determined in consultations with the originating laboratory, the MMVS, and subject matter experts.

[†] Not Applicable

2.3.1.3 Detection of Microbial Analytes That Present Unique Isolation and/or Enrichment Challenges[†]

Tables 2 provides validation criteria for microbial pathogens characterized as difficult to isolate, limited resources for extensive inclusivity and

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exclusivity studies, and either non-culturable for enrichment purposes or, enrichment cannot be accomplished in a timely manner.

Table 2 - General Guidelines for the Validation of Qualitative Detection Methods for Microbial Analytes - Unique Isolation and/or Enrichment Challenges [†]

	Emergency	Non-Emergency Validation Processes		
Criteria	Emergency Use	Single Laboratory Validation Study	Independent Laboratory Validation Study	Collaborative Validation Study
Participating Laboratory	Originating Laboratory	Originating Laboratory	Collaborating Laboratory	Collaborating Laboratories
# of target organism (inclusivity) ^a	[†] TBD	[†] TBD	*NA	*NA
# of non-target organism (exclusivity) ^a	[†] TBD	[†] TBD	*NA	*NA
# of laboratories providing usable data ^b	1	1	1	5 [✓]
# of foods	1 or more [✓]	1 or more [✓]	1 or more [✓]	1 or more [✓]
# of analyte levels/food matrix	[†] TBD	One inoculated level ^c and one uninoculated level	One inoculated level ^c and one uninoculated level	3 levels: One inoculated level ^c , one at 1 log higher ^d and one uninoculated level
Replicates per food at each level tested	[†] TBD	3	3	8 [✓]
Reference Method Comparison Requirement ^e	[†] TBD	Yes, if available	Yes, if available	Yes, if available

^aUsing pure cultures without a food matrix.

^bLabs providing data are required to run study on same PCR platform.

^cMust be adjusted to achieve fractional positive results (one or both methods *i.e.* the reference and alternate methods must yield 50%±25% of tests positive) at this level, advisable to include when possible one additional level at +1 log.

^dAll test samples inoculated at this level must yield 100% positive results.

^eIndependent Laboratory and Collaborative Validation Studies should use the most effective reference method available.

[†]Such examples include but are not limited to RNA food-borne viruses, and protozoan parasites. See APPENDIX 3 Sections V and VI.

[†]TBD to be determined in consultations with the originating laboratory, the MMVS, and subject matter experts.

^{*} Not Applicable.

[✓]Where circumstance and resources permit.

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2.3.2 Validation Criteria for Identification Methods

2.3.2.1 Definition

A method used to confirmation the identity of a microbial analyte e.g. serotyping.

2.3.2.2 Criteria

Table 3- General Guidelines for the Validation of Identification Methods for Microbial Analytes

Criteria	Non-Emergency Validation Processes		
	Single Laboratory Validation Study	Independent Laboratory Validation Study	Collaborative Validation Study
Participating Laboratory	Originating Laboratory	Collaborating Laboratory	Collaborating Laboratories
# of target organism (inclusivity) ^a	≥50 (unless 50 aren't available) ^{b,c}	1 ^c	12 ^c
# of non-target organism (exclusivity) ^a	≥30 strains ^{b,c}	1 ^c	12 ^c
# of laboratories providing usable data	1	1	10
Replicates ^d	3	3	3
Reference Method Comparison Requirement	Yes, if available	Yes, if available	Yes, if available

^aAt 10³ CFU/mL for target organisms and non-target organisms grown in a non-selective rich medium. 10³ CFU/reaction for molecular methods e.g. PCR.

^b100 serotypes for *Salmonella* testing.

^cShould be evaluated together in one single study; inclusive and exclusive samples should be intermingled and blinded

^dAll replicates must yield the correct answer

2.3.3 Validation Criteria for Quantifiable Methods to Detect Conventional Microbial Food-borne Pathogens

2.3.3.1 Definition

A method that provides an estimate of the amount of analyte present in the test sample, expressed as a numerical value in appropriate units, with trueness and precision which are fit for the intended purpose.

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2.3.3.2 Criteria

Table 4- General Guidelines for the Validation of Quantifiable Detection Methods for Microbial Analytes

Criteria	Non-Emergency Validation Processes		
	Single Laboratory Validation Study	Independent Laboratory Validation Study	Collaborative Validation Study
Participating Laboratory	Originating Laboratory	Collaborating Laboratory	Collaborating Laboratories
# of target organism (inclusivity)	50 (unless 50 aren't available)	NA ^f	NA ^f
# of non-target organism (exclusivity)	30 strains	NA ^f	NA ^f
# of laboratories providing usable data	1	1	10
# of foods	1 or more ^a	1 or more ^a	1 or more ^a
# of analyte levels/food matrix ^f	4 levels: Low medium and high inoculum levels ^b and one uninoculated level	4 levels: Low medium and high inoculum levels ^b and one uninoculated level	4 levels: Low medium and high inoculum levels ^b and one uninoculated level
Replicates per food at each level tested	5 replicates per level for a total of 20 replicates per method	5 replicates per level for a total of 20 replicates per method	Two test portions per level for a total of 8 test portions
Aging of inoculated samples prior to testing	Yes ^c	Yes ^c	Yes ^c
Addition of competitor strain ^d	In 1 food at +1 log>analyte at highest analyte level	In 1 food at +1 log>analyte at highest analyte level	In 1 food at +1 log>analyte at highest analyte level
Reference Method Comparison Requirement	Yes, if available	Yes, if available	Yes, if available
Confirmation of Test Portions	NA ^f	NA ^f	Yes, follow the reference method

^aFor FDA regulatory use, methods are only valid for foods that have been tested; validation can be extended to other foods by further testing. See section 5.1

^bThe low level should be at or near the limit of detection; medium and high levels should be chosen to span the analytical range of the alternate method.

^cPeriod of aging depends on food being tested. Perishable foods should be aged under refrigeration for 48 – 72 h. Frozen and shelf stable foods should be aged for a minimum of 2 weeks at -20°C or at room temperature, respectively.

^dAn appropriate competitor is one that gives similar reactions in enrichment and detection systems. Natural background microflora can fulfill this requirement as long as it present in the matrix at a level 1 log greater than the target analyte.

^f Not Applicable

2.4 Method Validation Operational Aspects

2.4.1 General Considerations

- All correspondence e.g. proposals, validation reports etc., with the MMVS will be initiated via email using the following address:
Microbiology.MVS@fda.hhs.gov.
- As defined in the SRSC Document titled "Method Development, Validation and Implementation SOP (See APPENDIX 3), all method validation plans must be

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submitted to and approved by the MMVS prior to initiating any methods validation work beyond the single lab validation stage. See APPENDIX 4 for proposal formatting.

- The number of laboratories submitting usable data in all the above tables represents the minimum number allowable for a successful validation study. It is suggested that 4 additional labs be considered for participation, since a variety of unforeseen circumstances can cause data sets to be rejected.
- The following elements must be addressed in all proposals for method validation studies (in non-emergency use situations).
 - Intended use or applicability statement for the method being validated.
 - Applicability of paired vs. unpaired sampling/testing.
 - Statistical methods must be employed to verify equivalent or statistically-significant improvement of performance between the new method and the reference method (or in some cases, the originally validated method) to include but not limited to sample means and the degree of accuracy. The MVS biostatistician will provide guidance on applicable statistical tools that will be employed on a case-by-case basis (See 2.4.2 Assessment for additional details).
 - Use of an appropriate reference method as determined in consultation with the MMVS. The reference method shall never be modified; comparison with a modified reference method renders the validation study invalid.
 - Where possible, the use of an accredited independent source for sample preparation and distribution.
 - Strain selection for inclusivity and exclusivity testing – This facet of the validation study it to assess the reliability and specificity of the alternate method.
 - Individual laboratories within the FVM research enterprise maintain their own inventories of microbial analyte collections. These collections, strains and serovars derived from food surveillance programs, food-borne outbreak investigations, and clinical specimens, are available to all Agency scientists. Access is governed by “U.S. Food and Drug Administration Foods Program Internal Strain Sharing Standard Operating Procedure” (<http://inside.fda.gov:9003/downloads/OC/OfficeofFoods/UCM353743.pdf>).
 - The choice of inclusivity strains should reflect the genetic, serological, and/or biochemical diversity of the organisms involved, as well as other factors such as virulence, frequency of occurrence and availability. Inclusivity testing is performed on purified cultures.
 - The choice of exclusivity strains should closely reflect related, potentially cross-reactive organisms. Other factors such as virulence, frequency of occurrence and availability should be considered. Exclusivity testing is performed on purified cultures.

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- Species/strains specified for use in inclusivity and exclusivity panels must be traceable to the source. The source and origin of each species/strain should be documented. See Appendix 6 for suggested inclusive and exclusive microbial analytes. This is not an exhaustive list and should serve only as a reference resource and a guide to aid the developer.
 - It is understood that it is not always possible to meet the inclusivity/exclusivity requirements listed herein. For example, only limited numbers of strains may be available for emerging pathogens, certain viruses or parasites. Under such circumstances, the MMVS or its designee will work in concert with the originating laboratory to test their methods with the maximum number of available strains when the developer is unable to comply with the requirements of this document.
-
- Suitability and availability of naturally-contaminated samples in the proposed validation study.
 - Inoculum preparation, spiking methodology, and uniformity of contamination (when artificially-contaminated samples will be used).
 - Sample preparation, naturally-occurring microflora, and the requirement for aerobic plate counts (APC) to verify background microflora.
 - Need for inclusion of competitive microflora. For food matrices that exhibit low naturally-occurring microflora background (as determined by APC), validation studies will adhere to AOAC-established parameter *i.e.* 1 log greater than microbial analyte being tested. Selection of competitive microflora to be used will be done in consultation with the MMVS.
 - Selection of spiking levels (when artificially-contaminated samples will be used).
 - Matrix aging to assess method robustness.
 - Microbial analyte stress, cell injury, and matrix-derived inhibition of analyte enrichment/growth.
 - Selection of appropriate foods. Food matrices will be validated individually based on the historical outbreak record and epidemiological link between matrix, pathogen, and illness. Some examples are provided in Appendix 5. Extension of a method to include additional food matrices will require additional validation studies. See Sections IV and V.
 - Formation of composited samples. In some instances, it may be necessary to validate composited samples. In the case of *Salmonella*, an analytical unit is 25 g and a composite sample is 375 g. A composite test portion is formed by adding fourteen uninoculated 25 g test portions to one inoculated 25 g test portion for a total of 375 g. The composite is compared to a 25 g inoculated test portion that is analyzed with the reference method.
 - Inocula designed to yield fractional positive results. Samples for both the reference method and the test method must achieve 50%±25% positive results (See APPENDIX 1: Glossary of Terms, for a complete description of fractional recovery).

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2.4.2 Assessment of Validation Results

- Acceptable false negative and false positive rates will be established in consultation with the MMVS. Factors that will influence this decision may include but not be limited to the replicate number and intended use (emergency, screening, confirmatory).
- False positive and false negative rates for a collaborative study will be evaluated in total (across all labs/data sets).
- Method equivalence determinations and employing appropriate statistical measurements. Statistical algorithms must be employed to test for significance differences (superiority or equivalence) and for data disqualification (see *below*), the preferred method of statistical analysis is Relative Limit of Detection (RLOD). Selection of a statistical approach will be dictated by the type and scope of the study and will be determined through consultations between the originating lab and the MMVS during the planning phase of any validation study.
- Data sets derived from a validation exercise can be disqualified. Examples include but may not be limited to:
 - Negative controls (un-inoculated controls) yield a positive outcome-an indicator of lab/operator error.
 - Deviation from the prescribed method.
 - Quality control deficiencies e.g. homogeneity and stability. Statistically-supported outliers (Quantifiable methods).
 - Failure to achieve fractional results within specified ranges (across all labs/data sets).

3.0 CRITERIA AND GUIDANCE FOR THE VALIDATION OF FDA-DEVELOPED MOLECULAR-BASED ASSAYS

These criteria and guidelines are intended to support method validation efforts for developers of molecular-based assays, e.g. PCR to be used to confirm the identity or exclusion of isolated colonies.

This guidance is intended to govern validation studies for either conventional or real time PCR assays. If validating a real time assay, the platform and chemistry must be specified. It is strongly recommended that a real time assay be validated on two to three other platforms i.e. thermal cyclers or workstations. Other molecular methods should provide detailed chemistry and platform prerequisites and include multiple platforms where possible.

The criteria necessary to determine four levels of validation for qualitative PCR assays for bacteria are the following:

3.1 Inclusivity and Exclusivity

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The inclusivity and exclusivity requirements described above apply here. The amount of template, whether using bacterial cells or purified nucleic acid, should be comparable for both inclusivity and exclusivity panels.

It is expected from the originating laboratory that all primer and/or probe sequences would initially be screened for uniqueness by searching a bacterial genomic database for homology. It is recommended that a BLAST search be performed against the GenBank non-redundant database.

3.2 Target Gene(s) and Controls (Positive and Negative).

Molecular-based assays to target gene(s) from a specific microbial analyte, whether to a virulence factor or taxonomic identifier (e.g. 16S DNA), must have demonstrable specificity (inclusivity and exclusivity) for that particular pathogen. Positive and negative control strains and reactions should be incorporated into the assay evaluation. Internal amplification controls for real-time PCR assays **are required** for regulatory food or environmental sample analyses.

3.3 Comparison to the Reference Method

The originating laboratory will compare the PCR-based method to bacteriological, biochemical, and/or serological reference methods. PCR-based methods may only be compared to PCR-based reference identification methods when bacteriological, biochemical, and/or serological reference methods are unavailable.

4.0 CRITERIA AND GUIDANCE FOR THE VALIDATION AND VERIFICATION OF COMMERCIALY- AVAILABLE MICROBIOLOGICAL DIAGNOSTIC KITS AND PLATFORMS

4.1 Definitions

4.1.1 Validation of an Alternative Method

Demonstration that adequate confidence is provided when the results obtained by the alternative method *i.e.* the commercially-available kit, are comparable to or exceed those obtained using the reference method using the statistical criteria contained in the approved validation protocol.

4.1.2 Verification

Method verification is a process by which a laboratory confirms by examination, and provides objective evidence, that the particular requirements for specific uses are fulfilled. It serves to demonstrate that the method can detect and identify an analyte or analytes:

- The confirmation by examination and the provision of objective evidence that specified requirements have been fulfilled.
- To assess the performance of a method in the user's laboratory against the specifications of the method established during the validation.

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- To assess the method performance on items included in the scope of the method and tested routinely by the user laboratory.
- To demonstrate that the method functions (without any adaptation) in the user's laboratory on matrices not included in the original method validation.

4.2 Criteria

4.2.1 Commercially-available Microbiological Diagnostic Kits Whose Performance Parameters Have been Fully Validated in a Multi-laboratory Collaborative Study Monitored and Evaluated by an Independent Accrediting Body e.g. AOAC-OMA, AFNOR, etc.

Each lab must perform an in-house verification for the "first use" of an alternate method in this category. For subsequent use(s) of the method, lab controls will be used per lot to re-verify the method.

4.2.1.1 Verification Requirements (per lab)

- Six replicates of the inoculated matrix and six replicates of the uninoculated matrix are tested and confirmed by both the alternative and the reference method.
- If no false positive or false negative results are obtained, then the new matrix is verified.
- Each commodity to be tested should be spiked with a level close to the detection limit, usually <30 cfu of analyte per 25 g food sample or any other specified test portion to determine if there is any interference from the matrix.
- If unacceptable false positive or false negative results are observed (as defined for the intended use of the method), then the study must be expanded to a full SLV (Table 1) to define the operating characteristics of the method with the new matrix. Consult Section V: Food Matrix Extension for more detailed information.

NOTE: The verification criteria described above apply only for foods which were part of the collaborative study by an independent accrediting body. The use of such kits for food matrices that were not included in the original collaborative study must be preceded by a food matrix extension study. (See Section 5: Food Matrix Extension)

4.2.2 Commercially-available Microbiological Diagnostic Kits Whose Performance Parameters are Supported by Data Obtained Through an Independent Laboratory Validation Protocol and Evaluated by an Independent Accrediting Body e.g. AOAC-RI.

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All methods fitting into this description *must* be validated according to the criteria defined for Agency-developed (FDA) microbiology methods (See Section 2).

5.0 METHOD MODIFICATION AND METHOD EXTENSION CRITERIA FOR EXISTING VALIDATED MICROBIOLOGY METHODS

Modifications to an existing validated method may be made for any number of reasons and may or may not affect the established validated performance parameters of the original method. There is no “*one size fits all*” rule or set of rules to govern how a modification will be addressed.

Some modifications (e.g. ease-of-use capabilities, availability/substitution of reagents or instrumentation, sample handling/sample processing adaptations, etc.) may only necessitate verification against the original method according to criteria detailed in Section 4.2.1.1., whereas other modifications may require significant validation data to support their use. It is recommended that statistical analyses be performed on the verified performance specifications to support implementation of the modification. These include:

- The *t* test for significance of difference between the two sample means to determine degree of accuracy. The *t* Stat value must be less than or equal to the *t* critical value.
- The F test for significance of difference between the two sample variances to determine degree of precision. The F value must be less than or equal to the F critical value.

More extensive modifications that may influence method sensitivity, specificity, precision and accuracy (quantifiable methods), e.g. changes in sample preparation procedures, time/temperature requirements for non-selective and selective enrichment media; or, altering chemistry parameters for molecular methods for example may require either limited (SLV or Independent Laboratory Validation Study) or a Collaborative Validation Study as described in Table 1.

Any decision on how such modifications are viewed and the approach to be taken will reside with the MMVS.

Specific criteria for matrix and platform extension to existing methods are described in greater detail in Sections 5.1 and 5.2

5.1 Matrix Extension

FDA ORA microbiology labs analyze a huge variety of food matrices. Even so, methods used in FDA field laboratories for regulatory purposes must be evaluated for each food.

Very often however, validation studies can neither address all the varied matrices nor fully anticipate what matrix or matrices will be involved in emergency situations

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or outbreak investigations – two scenarios where samples must be analyzed immediately.

Though it is generally assumed that the more closely related a new food matrix is to a previously-validated matrix for the detection of a defined analyte, the greater the probability that the method will perform similarly with the new matrix, the method must nonetheless be verified for all new matrices. This is to ensure that the new matrix will neither produce high false positive (matrix is free from cross reactive substances) nor high false negative rates (matrix is free of inhibitory substances).

As described below, either a verification process or additional validation studies will be required before any given validated method can be used to test a food (or foods) not included in the original method validation. Close consultation between method developers, laboratory managers, QMS managers and the MVS will aid in determining which approach is more applicable for any given situation.

NOTE: Criteria described in sections 5.1.1 and 5.1.2 only apply to situations in which no additional modifications to the method have been made. In those cases where food matrix extension is accompanied by additional modifications to the method, an SLV or Independent Laboratory Validation as described in Table 1 may be required. This decision will be at the discretion of the MMVS.

5.1.1 Matrix Extension Guidance for New Foods From the Same Category Used for the Original or Subsequent Validation Studies

In instances where a method will be used to test a food (or foods) from the same category of food (See APPENDIX 5) included in the original validation study, ORA laboratories will analyze the matrix in question concurrently with a matrix spike. The matrix spike will consist of a 25 gram sample of the product spiked with an inoculum of 30 cells or less of the target analyte. Negative spike results invalidate the analysis and the sample must be analyzed using the conventional culture procedure.

ORA labs may continue to perform individual sample matrix spikes for matrices that have not been fully validated for the method. Matrix spike results will be entered into Field Accomplishment Computerized Tracking System (FACTS) and data will be evaluated and classified according specific food, and matrix spike results. When a specific food has yielded at least seven positive and no negative results using matrix spikes; or, a >95% confidence level (19 of 20 positives), the method will be considered verified for that food product. The method can then be used for that food without further positive spike controls.

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The ORA Office of Regulatory Science will maintain and update lists detailing the expansion of food matrices for methods used by ORA laboratories; these lists will be posted on the ORA Office of Regulatory Science website.

5.1.2 Matrix Extension Guidance for New Foods From a Different Category Than That Used for the Original Method Validation Study

In instances where a method will be used to test a food (or foods) for which it has not previously been validated *and* the food (or foods) is not within the same category of food (See APPENDIX 5) included in the original validation study, then an independent validation study will be required as described in Table 1.

5.2 -Platform Extension

Platform extension refers to the proposed use of a new, similarly functioning instrument into approved method that *differs* from the one used in the original validation study. Such platform differences may include (but not be limited to) being of similar function and capacity but from a different manufacturer; from the same manufacturer but with significantly different performance parameters (i.e. capacity, capabilities); or, represent the next generation for that type of instrumentation to include newer technology and/or reagent reformulations.

The use of specialized instrumentation (and in many cases their accompanying proprietary reagents) dictate the performance standards of validated analytical methods. Therefore, it cannot be assumed that the impact on the method's performance from any interchangeability of instrumentation will be negligible. Performance comparability must be assessed.

In general, platform extension validation must be done by comparing the proposed new platform to the previously validated platform. The scope of the validation study may vary from case to case and will be dependent on such factors as reformulation of buffers, primers, probes, alternative proprietary chemistries, threshold of detection sensitivity, etc. Each case will be judged independently through examination of publicly accessible data, input from SMEs, the method developer, and the MMVS.

In planning platform extension validation, the method developer and the MMVS, must determine what aspect of the technology will be compared in order to determine how the study should proceed. In some instances a platform extension study may require only a simple verification process. Other instances, however, may necessitate an SLV or Independent Validation Study as described in Table 1.

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APPENDIX 1 Glossary of Terms

Action level: Level of concern for an analyte that must be reliably detected, identified or quantified in a sample.

Accuracy: A measure of the degree of conformity of a value generated by a specific procedure to the assumed or accepted true value, and includes precision and bias.

Alternate method: The newly developed or modified method that is to be evaluated against the performance of a recognized reference method by a defined validation process.

Analytical batch: An analytical batch consists of samples which are analyzed together with the same method sequence and same lots of reagents and with the manipulations common to each sample within the same time period or in continuous sequential time periods. A set of measurements or test results taken under conditions that do not vary within a 24 hour time period.

Analyte: Component measured by the method of analysis. In the case of microbiological methods, it is the microorganism or associated by-products (e.g., enzymes or toxins).

Applicability: The analytical purpose for which a method has been validated.

Bias: The difference between the expectation of the test results and an accepted reference value.

NOTE: *Bias is the total systematic error as contrasted to random error. There may be one or more systematic error components contributing to the bias. A larger systematic error difference from the accepted reference value is reflected by a larger bias value.*

Calibration: The set of operations which establish, under specific conditions, the relationship between values of quantities by a measuring instrument or measuring system, or values represented by a material measure or a reference material, and the corresponding values realized by standards.

Certified Reference Material (CRM): Reference material, accompanied by a certificate, one or more of whose property values are certified by a procedure which establishes metrological traceability to an accurate realization of the unit in which the property values are expressed, and for which each certified value is accompanied by an uncertainty at a stated level of confidence (slightly modified from VIM04)

NOTE: *The term "Standard Reference Material" (SRM) is the name of a certified reference material (CRM), which is the trademark name of a*

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certified reference material that has been certified and is distributed by the National Institute of Standards and Technology (NIST).

Collaborative study: A Collaborative study is an inter-laboratory study in which each laboratory uses the defined method of analysis to analyze identical portions of homogeneous materials to assess the performance characteristics obtained for that method of analysis. It is designed to measure inter-laboratory reproducibility, so that it can be determined if the method can be successfully performed by laboratories other than the originating laboratory. For methods having more than one sample preparation or enrichment scheme, it is necessary to test one matrix per sample preparation or enrichment scheme.

Detection limit: A detection limit is the lowest amount of analyte in a sample which can be detected but, not necessarily quantified, as an exact value. It is often called the limit of detection (LOD), which is the lowest concentration level that can be determined as statistically different from a blank at a specified level of confidence. It is determined from the analysis of sample blanks and samples at levels near the expected LOD (see ISO 11843, CLSI EP17).

Exclusivity: Specificity; the ability of the method to distinguish the target from similar but genetically distinct non-target. It is the lack of interference in the alternative method from a relevant range of non-target strains, which are potentially cross-reactive.

Food category: A group of specific related foods. Appendix 2 lists nine recommended food categories: meat products, poultry, fish and seafood products, fruit- and vegetable-based products, dairy products, chocolate/bakery products, animal feeds, pasta, and miscellaneous.

Food matrix: Components that comprise the food sample.

Food product: Any substance usually composed primarily of carbohydrates, fats, water and/or proteins that can be eaten or drunk by an animal or human for nutrition or pleasure. See APPENDIX 5 for examples of representative food products.

Food type: An item that is processed, partially processed or unprocessed for consumption. APPENDIX 5 lists various types such as raw, heat processed, frozen, fermented, cured, smoked, dry, low moisture, etc.

Fractional recovery: Validation criterion that is satisfied when a common set of samples (e.g., inoculation level), yields a partial number of positive determinations and a partial number of negative determinations within a replicate set of samples. The proportion of positive samples should approximate 50% ($\pm 25\%$) of the total number of replicates in the set. A set of replicate analyses are those replicates analyzed by one method (either reference or alternate). In the context of the entire data set, values outside the prescribed

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fractional range (50%±25%) may be considered. For example, for studies where a larger number of test portions were analyzed, (i.e., 60), a larger fractional range may be acceptable. Other parameters may be considered on an individual basis.

Inclusivity: Sensitivity; the ability of the method to detect a wide range of targets by a defined relatedness e.g. taxonomic, immunological, genetic composition.

Incurred samples: Naturally-contaminated test samples.

Laboratory: An entity that performs tests and/or calibrations. When a laboratory is part of an organization that carries out activities additional to sample preparation, testing and calibration, the term laboratory refers only to those parts of that organization that are involved in the sample preparation, testing and calibration process. A laboratory's activities may be carried out at a permanent, temporary, or remote location.

Limit of Quantification (LOQ): Lowest amount or concentration of analyte that can be quantitatively determined with an acceptable level of uncertainty, also referred to as the limit of determination.

Linearity: Defines the ability of the method to obtain test results proportional to the concentration.

Matrix blank: A quality control sample of a specified amount of matrix that does not contain the analyte of interest.

Matrix spike: An aliquot of a sample prepared by adding a known quantity of target analytes to a specified amount of matrix and subjected to the entire analytical procedure to establish if the method or procedure is appropriate for the analysis of a specific analyte in a particular matrix.

Method blank: Quality control sample that does not contain the analytes of interest but is subjected to all sample processing operations including all reagents used to analyze the test samples.

Method Detection Limit (MDL; also known as LOD): Lowest amount or concentration of analyte that a specific method can statistically differentiate from analyte-free sample matrix. This is dependent on sensitivity, instrumental noise, blank variability, sample matrix variability, and dilution factor.

Minimum Detectable Concentration (MDC): An estimate of the minimum true concentration of analyte that must be present in a sample to ensure a specified high probability (usually >95%) that the measured response will exceed the detection threshold (i.e., critical value), leading one to conclude correctly that the analyte is present.

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Minimum Quantifiable Concentration (MQC): The smallest concentration of analyte whose presence in a laboratory sample ensures the relative standard deviation of the measurement does not exceed a specified value, usually 10 percent.

Precision: Degree of agreement of measurements under specified conditions. The precision is described by statistical methods such as a standard deviation or confidence limit. See also Random Error. Repeatability expresses the precision under the same operating conditions over a short period of time. Intermediate precision expresses within-laboratory variations, such as different days, different analysts, and different equipment. Reproducibility expresses the precision between laboratories.

Qualitative method: A method that identifies analyte(s) based on chemical, biological, or physical properties; method of analysis whose response is either the presence or absence of the analyte detected either directly or indirectly in a certain amount of sample. Most qualitative methods are or can be made at least "semi-quantitative" to provide rough estimates of the amount of analyte present.

Quantifiable method: A method that provides an estimate of the amount of analyte present in the test sample, expressed as a numerical value in appropriate units, with trueness and precision which are fit for the purpose.

Random error: The irreproducibility in making replicate measurements resulting from random changes in experimental conditions that affects the precision of a result. The distribution of random errors usually follows a Gaussian bell-shaped curve. See also Precision.

Range: The interval of concentration over which the method provides suitable precision and accuracy.

Recovery: Proportion of incurred or added analyte which is extracted and measured from the analytical portion of the test sample.

Reference material: A material or substance, one or more of whose property values are sufficiently homogenous and well established to be used for the calibration of an apparatus, the assessment of a measurement method, or for assigning values to materials.

Reference standard: A standard, generally having the highest metrological quality available at a given location in a given organization, from which measurements are made or derived. Note: Generally, this refers to recognized national or international traceable standards provided by a standards producing body such as the National Institute of Standards and Technology (NIST).

Relative Limit of Detection: The limit of detection of the alternate method divided by the limit of detection of the reference method.

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Repeatability: The closeness of the agreement between the results of successive measurements of the same measurand carried out under the same conditions of measurement.

Ruggedness or robustness: The ability of a method to resist changes in test results when subjected to minor deviations in experimental conditions of the procedure. Ruggedness testing examines the behavior of an analytical process when subtle small changes in the environment and/or operating conditions are made, akin to those likely to arise in different test environments.

Screening method: A method intended to detect the presence of an analyte in a sample at or above some specified concentration (target level).

Specificity: The capability of a method to discriminate between the analyte of interest and other components of the sample including matrix components.

Sensitivity: The lowest concentration that can be distinguished from background noise or the smallest amount of a substance or organism that can accurately be measured by a method or test system is the analytical sensitivity. However, sensitivity is commonly defined as the slope of the calibration curve at a level near the LOQ.

Source : The origin of a test sample. A sample matrix may have variability due to its source. For example, a water sample may have variable characteristics, and therefore, may show method results variability, depending on whether the sample source is drinking water, ground water, surface water, or waste water.

^a Different food sources are defined as different commercial brands. Different water sources could be from different areas of a reservoir. Different plant or soil sources could be samples from the different areas of a plot or field. Different sediment sources could be samples from different areas of a water body.

NOTE: The number of sources for a food method validation study may be determined by the number and selection of matrices analyzed in the method validation study. For example, if a variety of food matrices with differing physical and chemical properties are selected, the number of sources for each food sample matrix may be one or more. For a method validation study analyzing one food matrix, 3-5 sources of the food matrix are recommended.

Specificity: Analytical specificity is the ability of a method to measure one particular analyte in the presence of components which may be expected to be present.

Standard Reference Material (SRM): A certified reference material issued by the National Institutes of Standards and Technology (NIST) in the United States. An SRM is certified by NIST for specific chemical or physical properties and is issued with a certificate that reports the results of the characterization and indicates the intended use of the material (www.nist.gov/SRM).

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Strain: A group of microorganisms of the same species having distinctive hereditary characteristics not typical of the entire species; a subset of a bacterial species differing from other bacteria of the same species by minor but identifiable differences

Systematic error: A form of measurement error, where error is constant across trials. This may also be referred to as Bias.

Target level: The level at which an analyte can be reliably identified or quantified in a sample.

Trueness: The degree of agreement of the expected value from a measurement with the true value or accepted reference value. This is related to systematic error (bias).

Uncertainty: The parameter associated with the result of a measurement that characterizes the dispersion of the values that could reasonably be attributed to the measurand. (VIM, 1993)

Validation, method: The confirmation by examination and the provision of objective evidence that the particular requirements for the specific use of a method are fulfilled.

Validation of an alternative method: Demonstration that adequate confidence is provided when the results obtained by the alternative method are comparable to those obtained using the reference method using the statistical criteria contained in the approved validation protocol.

Verification: The confirmation by examination and provision of the objective evidence that specified requirements for the performance of a method have been fulfilled by an individual laboratory. Also, the means used to demonstrate that the method functions (without any adaptation) in the user's laboratory on matrices not included in the original method validation.

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**APPENDIX 2
SRSC Method Validation Subcommittee Charter**



SRSC Method
Validation Subcommit

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APPENDIX 3 Method Development, Validation and Implementation SOP



Methods
Development-Validatio

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**APPENDIX 4
FVM Microbiology Method Validation Study Application**



FVM Micro Method
Validation Study Appl

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APPENDIX 5

Examples of Food Types and Associated Microbiological Contaminants

Table 1-Food Categories Relevant to Foodborne Pathogenic Bacteria

(AOAC Classification of Food Categories, Feldsine et al., (2002) JAOACI 85(5) 1197 – 1198)

Food type	Yersinia	Clostridium perfringens	Listeria mono	E. coli O157	Staph aureus	Campy	Salmonella	B. cereus
Meats								
raw	x		x	x		X	x	x
heat processed			x	x	x		x	
frozen			x	x			x	
fermented			x	x			x	
cured		x	x		x		x	
other		dishes / gravy	pate					
Poultry								
raw	x					X	x	
heat processed							x	
frozen							x	
other		dishes / gravy						
Seafood								
raw	x		x	x		X	x	
heat processed							x	
frozen			x	x			x	
shellfish	x			x		X	x	
smoked		x	x		x		x	
other							x	
Fruits & Vegetables								
unpasteurized juice				x			x	
raw	x		x	x		X	x	
heat processed		x						
frozen			x				x	
dry								x
juice/concentrate				x			x	
low moist							x	
nut meats			x	x			x	
others								
Dairy								
raw	x		x	x	x	X	x	x
heat processed			x					x
frozen			x	x	x		x	x
Fermented?			x	x	x		x	
dry					x		x	x
ice cream			x				x	

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cheese			x	x			x	
Chocolate / bakery								
low moist							x	
dry powder							x	
milk chocolate							x	
other					pastry			custard
Animal feed								
low moist							x	
pet food							x	
Pasta								
uncooked							x	
Misc								
dressings			x	x			x	
spices		x					x	
mayonnaise			x	x		X	x	
flour			x			X	x	
egg / derivatives				x			x	
cereal/rice								x

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Table 2 - AOAC Food Categories Relevant to Non-pathogenic Microorganisms

Product	Yeast & Mold	Lactics	Total Viable	Coliform	E. coli
Meat					
raw	x	x	x	X	x
heat processed		x	x	X	
frozen	x		x	X	x
Fermented	x	x	x		
cured		x	x		
Poultry					
raw	x	x	x	X	x
heat processed		x	x	X	
frozen	x		x	X	x
other			x		
Seafood					
raw	x	x	x	X	x
heat processed		x	x	X	
frozen	x		x	X	x
smoked	x	x	x	X	
Fruits & Vegetables					
raw	x	x	x	X	x
heat processed			x	X	
frozen	x		x	X	
dry	x		x	X	
fermented	x		x		
cured/salted	x		x		
juice/concentrate	x	x	x		
low moist	x		x		
Dairy					
raw	x	x	x	X	x
heat processed			x	X	
frozen	x		x	X	x
Fermented	x				x
dry			x	X	
Choc/bakery					
low moist / IMF	x		x	X	
dry			x	X	
milk chocolate	x		x	X	
Animal feed					
low moist	x		x	X	
dry pet	x		x	X	x
Pasta					
uncooked	x		x	X	
Misc					
dressings	x	x	x	X	x
spices			x		x
mayonnaise	x	x	x		x
egg / derivatives			x	X	

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cereal / rice		x	X
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Representative Food Products in Categories

Meats:

Ground beef, ground pork, meat by-products, glandular products, frog legs, rabbit carcasses, lamb, sausage, frankfurters, lunch meat, beef jerky, meat substitutes

Poultry:

Ground chicken, ground turkey, cooked chicken, raw chicken parts

Seafood:

Raw shrimp, fish sticks, surimi, raw fish filet, raw oysters, raw mussels, raw clams, cooked crawfish, smoked fish, pasteurized crabmeat

Fruits & Vegetables:

Fresh / frozen fruits or dried fruits, orange juice, apple juice, apple cider, tomato juice, melon cubes, berries

Pecans, walnuts, peanut butter, coconut, almonds

Lettuce, spinach, kale, collard greens, cabbage, bean sprouts, seed sprouts, spent water from sprouts, peas, mushroom, green beans

Dairy:

Yogurt, cottage cheese, hard and soft cheeses, raw or pasteurized liquid milk (skim, 2% fat, whole, buttermilk), infant formula, coffee creamer, ice cream, nonfat dry milk / dry whole milk, dried buttermilk, dried cheese spray

Chocolate / bakery:

Frosting and topping mixes, candy and candy coating, milk chocolate

Animal feed:

Dry pet food, meat and bone meal, chicken and feather meal

Uncooked Pasta:

Uncooked noodles, macaroni, spaghetti

Miscellaneous:

Shell eggs, liquid whole eggs, oral or tube feedings containing egg, dried whole egg or dried egg yolk, dried egg whites

Oregano, pepper, paprika, black pepper, white pepper, celery seed or flakes, chili powder, cumin, parsley flakes, rosemary, sesame seed, thyme, vegetable flakes, onion flakes, onion powder, garlic flakes, allspice

Wheat flour, casein, cake mixes, whey, nonfat dry milk/dry whole milk, corn meal, dried whole egg or dried egg yolk, dried egg whites, soy flour, dried yeast, cereals, dried buttermilk, dry cheese spray

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APPENDIX 6 Strains and Serovars for Inclusivity and Exclusivity Panels (abridged)

- This appendix is meant to serve as a guide or starting point for the method developer as they construct exclusive and inclusive panels for method validation and is not intended to be exhaustive.
- Access to microbial analyte strain and serovar and collections within the FVM research enterprise is governed by "U.S. Food and Drug Administration Foods Program Internal Strain Sharing Standard Operating Procedure"

	Serotype	Genotype		
		stx1	stx2	uidA-O157:H7/H-
EHEC	O157:H7	+	+	+
	O157:H7	+	-	+
	O157:H7	-	+	+
	O157:H7	-	-	+
	O157:H-	+	+	+
	O157:H-	-	+	+
STEC	O68:H-	+	+	-
	O48:			
	O45:H2			
	O137:H41			
	O111:H-			
	O22:H8			
	O15:H27			
	O4:H-			
	O26:H11	+	-	-
	O26:H-			
	O45:H2			
	O85:H-			
	O103:H2			
	O103:H6			
	O111:H11			
	O125:H-			
	O126:H27			
	O146:H21			
	<i>E. coli, stx1 insert</i>			
	O14:H19	-	+	-
	O28:H35			
	O48:H21			
	O55:H7			
	O104:H21			
	O121:H19			
	O165:H25			
<i>E. coli, stx2 insert</i>				
Non-toxigenic <i>E. coli</i>	Non-O157:H7	-	-	-
	O55:H7			
	O157:H16			

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O157:H45

I. E.

coli O157:H7

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	Serotype	Genotype		
		stx1	stx2	uidA-O157:H7/H-
<i>Shigella dysenteriae</i>		+	-	-
<i>Hafnia alvei</i>		-	-	-
<i>Morganella morganii</i>		-	-	-
<i>Citrobacter freundii</i>		-	-	-
<i>Lectercia adecarboxylata</i>		-	-	-
<i>Hafnia alvej</i>		-	-	-
<i>Shigella sonnei</i>		-	-	-
<i>Shigella boydii</i>		-	-	-
<i>Shigella flexneri</i>		-	-	-
<i>Citrobacter freundii</i>		-	-	-
<i>Salmonella</i> Grp. 30		-	-	-
<i>Salmonella lansing</i> Grp.P		-	-	-
<i>Klebsiella pneumoniae</i>		-	-	-
<i>Listeria monocytogenes</i>		-	-	-
<i>Listeria innocua</i>		-	-	-
<i>Listeria ivanovii</i>		-	-	-
<i>Listeria seeligeri</i>		-	-	-
<i>Listeria welshimeri</i>		-	-	-
<i>Vibrio cholerae</i>	O1 Inaba	-	-	-
<i>Vibrio parahaemolyticus</i>	O4	-	-	-
<i>Vibrio vulnificus</i>		-	-	-
<i>Staphylococcus aureus</i>		-	-	-
<i>Rhodococcus equi</i>		-	-	-
<i>Lactobacillus</i> sp.		-	-	-
<i>Lactobacillus</i> sp.		-	-	-
<i>Salmonella typhimurium</i>		-	-	-
<i>Streptococcus pyogenes</i>		-	-	-
<i>Algaligenes faecalis</i>		-	-	-
<i>Salmonella choleraesuis</i>		-	-	-
<i>Yersinia enterocolitica</i>		-	-	-
<i>Yersinia enterocolitica</i>		-	-	-
<i>Enterobacter cloacae</i>		-	-	-

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II. *Salmonella* (inclusivity)

Note: (Derived from the Defense Science Office (DSO) of the Defense Advance Research Projects Agency (DARPA) Systems and Assays for Food Examination (SAFE) Program.

IIa. *Salmonella*: Subspecies Set

SAFE Designation	Original Designation	Serotype	Subsp.
1	02-0061	Newport	I
2	02-0062	Enteritidis	I
3	02-0105	Heidelberg	I
4	02-0115	Typhimurium	I
5	2433	Typhi	I
6	CNM-1029/02	4,5,12:b:-	I
7	CNM-3578/03	Hadar	I
8	CNM-3663/03	Virchow	I
9	CNM-3685/03	Brandenburg	I
10	00-0163	II 58:l,z13,z28:z6	II
11	00-0324	II 47:d:z39	II
12	01-0227	II 48:d:z6	II
13	01-0249	II 50:b:z6	II
14	CNM-169	II 53:lz28:z39	II
15	CNM-176	II 39:lz28:enx	II
16	CNM-4290/02	II 13,22:z29:enx	II
17	CNM-466/03	II 4,12:b:-	II
18	CNM-5936/02	II 18:z4,z23:-	II
19	01-0089	IIIa 41:z4,z23:-	IIIa
20	01-0204	IIIa 40:z4,z23:-	IIIa
21	01-0324	IIIa 48:g,z51:-	IIIa
22	02-0111	IIIa 21:g,z51:-	IIIa
23	CNM-247	IIIa 51:gz51:-	IIIa
24	CNM-259	IIIa 62:g,z51:-	IIIa
25	CNM-3527/02	IIIa 48:z4,z23,z32:-	IIIa
26	CNM-7302/02	IIIa 48:z4,z23:-	IIIa
27	01-0170	IIIb 60:r:e,n,x,z15	IIIb
28	01-0221	IIIb 48:i:z	IIIb
29	01-0248	IIIb 61:k:1,5,(7)	IIIb
30	02-0188	IIIb 61:l,v:1,5,7	IIIb
31	CNM-3511/02	IIIb 48:z10:e,n,x,z15	IIIb
32	CNM-4190/02	IIIb 38:z10:z53	IIIb
33	CNM-750/02	IIIb 60:r:z	IIIb
34	CNM-834/02	IIIb 50:i:z	IIIb
35	01-0133	IV 50:g,z51:-	IV
36	01-0147	IV 48:g,z51:-	IV
37	01-0149	IV 44:z4,z23:-	IV
38	01-0276	IV 45:g,z51:-	IV
39	01-0551	IV 16:z4,z32:-	IV
40	CNM-1904/03	IV 11:z4,z23:-	IV
41	CNM-4708/03	IV 6,7:z36:-	IV

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42	ST-16	IV 16:z4,z32:-	IV
43	ST-21	IV 40:g,z51:-	VII
44	ST-22	IV 40:z4,z24:-	VII
45	94-0708	V 48:i:-	S. bongori
46	95-0123	V 40:z35:-	S. bongori
47	96-0233	V 44:z39:-	S. bongori
48	CNM-256	V 60:z41:-	S. bongori
49	CNM-262	V 66:z41:-	S. bongori
50	95-0321	V 48:z35:-	S. bongori
51	1121	VI 6,14,25:z10:1,(2),7	VI
52	1415	VI 11:b:1,7	VI
53	1937	VI 6,7:z41:1,7	VI
54	2229	VI 11:a:1,5	VI
55	811	VI 6,14,25:a:e,n,x	VI

IIb. *Salmonella*: Outbreak Cluster Set

SAFE Designation	Original Designation	Serotype
56	AM04695	Typhimurium / DT 04b
57	K0507	Typhimurium
58	H8289	Typhimurium
59	H8290	Typhimurium
60	H8292	Typhimurium
61	H8293	Typhimurium
62	H8294	Typhimurium
63	2009K0191	Typhimurium
64	2009K0208	Typhimurium
65	2009K0224	Typhimurium
66	2009K0226	Typhimurium
67	2009K0230	Typhimurium
68	2009K0234	Typhimurium
69	2009K0350	Typhimurium
70	AM03380	Typhimurium / DT 104
71	AM01797	Typhimurium / DT 104
72	AM03759	Typhimurium / DT 104
73	CDC_07-0708	I 4,[5],12:i:-
74	CDC_08-0061	I 4,[5],12:i:-
75	CDC_08-0134	I 4,[5],12:i:-
76	CDC_07-835	I 4,[5],12:i:-
77	CDC_07-934	I 4,[5],12:i:-
78	CDC_07-922	I 4,[5],12:i:-
79	CDC_07ST000857	Enteritidis
80	CDC_08-0253	Enteritidis
81	CDC_08-0254	Enteritidis

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IIc. *Salmonella*: Food Set

SAFE Designation	Original Designation	Serotype
82	2105 H	Saphra
83	1465 H	Rubislaw
84	2069 H	Michigan
85	2308 H	Urbana
86	885 H	Vietnam
87	3030 H	Tornow
88	768 H	Gera
89	1941 H	Fresno
90	3029 H	Brisbane
91	4000 H	Agona
92	1501 H	Muenchen
93	1097 H	Senftenberg
94	1250 H	Muenster
95	1 H	Montevideo
96	1070 H	Johannesburg
97	2080 H	Javiana
98	3170 H	Inverness
99	1061 H	Cubana
100	1158 H	Cerro
101	1988 H	Alachua

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III. *Listeria* spp.

Organism	Isolate #	Isolate Information	Serology	
		Food Isolates		
<i>L. monocytogenes</i>	15b42	cucumber	4	
	3365	mackerel	4b6	
	3312	cheese	1a1	
	15b27	radish	1	
	2388	coleslaw	1	
	2478	raw milk	1	
	3313	shrimp	1a1	
	3326	roast beef	1a1	
	3358	milk product	1a2	
	3363	cook snow crab	1a2	
	3756	beef & gravy Rh-	1	
	15b72	apple juice	1	
	15b85	cream ch. & veg	1	
	15c14	avocado pulp	1	
	15c22	fontina cheese	1	
	15a90	turkey ham	3b	
	2450	veg. mix	1	
	2475	cold cut sand.	1	
	2492	ice cream	1	
	3291	popsicle	1a1	
	3318	lobster	1a2	
	3321	raw shrimp	4b6	
	3332	mex-style cheese	4b6	
	3359	surimi scallops	1a1	
	3362	Pollack	1a1	
	3558	cheese	4b	
	3644	red bean ice bar	4b6	
	3662	cheese	4b6	
	15b70	cheddar cheese	4	
	<i>L. monocytogenes</i>		Patient Isolates	
		2369		1
		2370		1
15b55			1	
15b65			1	
3555			4	
3664			1a1	
3666			4b6	
3668			4b6	
15a82			4	
15b56			4	
15b58			4	
15b81			1	
15b82			4	
<i>L. monocytogenes</i>			Environmental Isolates (swab)	
	3315		1a1	
	3286		1a2	
	3308		1a2	

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	3360		1a1
<i>L. monocytogenes</i>	KC 1710	Other Isolates	4a7,9
	ATCC 19114		4a
	V-7		1a1
	ATCC 15313		1
	Scott A		4b6
	ATCC 19116		4c
	ATCC 19115		

Organism	Isolate #	Organism	Isolate #	
<i>L. innocua</i>	3107	<i>L. welshimeri</i>	2230	
	3124		2231	
	3516		3425	
	3654		3441	
	3758		3659	
	6273		15b05	
	3181		15b06	
	3270		15b16	
	3390		15b46	
	3392		15b48	
	3552		15b50	
	3757		6410	
	15a93		<i>Hafnia alvei</i>	6365
	15a94		<i>E. coli</i>	13b67
	15a95		<i>Morganella morganii</i>	13c94
	15b30		<i>Shigella dysenteriae</i>	13d26
	15b31		<i>Citrobacter freundii</i>	13d64
	15b51		<i>E. coli</i>	13d65
	15a92		<i>Leclercia adecarboxylata</i>	13d66
ATCC 33090	<i>Hafnia alvei</i>	13g01		
<i>L. ivanovii</i>	2244	<i>Shigella sonnei</i>	13g18	
	3106	<i>Shigella boydii</i>	13g19	
	3417	<i>Shigella flexneri</i>	6251	
	6274	<i>Citrobacter freundii</i>	6269	
	15a96	<i>Salmonella</i> Grp. 30	6270	
<i>L. ivanovii</i>	15a97	<i>Salmonella</i> lansing Grp. P	6271	
	15a98	<i>Klebsiella pneumonia</i>	6277	
	15b24	<i>Vibrio cholerae</i>	6278	
	ATCC 19119	<i>Vibrio parahaemolyticus</i>	6279	
<i>L. seeligeri</i>	2232	<i>Vibrio vulnificus</i>	ATCC 25923	
	2233	<i>Staphylococcus aureus</i>	6281	
	2243	<i>Rhodococcus equi</i>	6282	
	2302	<i>Lactobacillus</i> sp.	6286	
	3110	<i>Lactobacillus</i> sp.	6290	
	3126	<i>Salmonella typhimurium</i>	ATCC 19615	
	3389	<i>Streptococcus pyogenes</i>	ATCC 8750	
	3423	<i>Alcaligenes faecalis</i>	ATCC 6539	
	3439	<i>Salmonella choleraesuis</i>	1269	
		<i>Yersinia enterocolitica</i>		

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L. seeligeri (<i>continued</i>)	3451	Yersinia enterocolitica	1270
	3517	E. coli	13a80
	3531	Enterobacter cloacae	18g53
	3656		
	6275		
	15b07		
	15b08		
	15b09		
	15b26		
	15b28		
	15b49		

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IV. *Shigella*

Inclusive Panel

Genus	Species (Group)	Serotype
<i>Escherichia</i> <i>Shigella</i> <i>Shigella</i>	<i>Escherichia coli</i> , Enteroinvasive Provisional <i>boydii</i> (C)	Unknown 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
<i>Shigella</i>	<i>dysenteriae</i> (A)	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
<i>Shigella</i>	<i>flexneri</i> (B)	1 1a 1b 2 2a 2b 3 3a 3c 4 4a 5 5a 5b 6
<i>Shigella</i> <i>Shigella</i>	<i>flexneri</i> , provisional (B) <i>sonnei</i> (D)	Unknown

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IV. *Shigella* (continued)

Bacteria strain	Strain no.	Source*
<i>Acinetobacter baumannii</i>	19606	ATCC
<i>Aeromonas caviae</i>	15468	ATCC
<i>Aeromonas hydrophila</i>	7966	ATCC
<i>Bacillus licheniformis</i>	12759	ATCC
<i>Bacillus sphaericus</i>	4525	ATCC
<i>Bacillus stearothermophilus</i>	12016	ATCC
<i>Bacillus subtilis</i>	6633	ATCC
<i>Bordetella bronchiseptica</i>	10580	ATCC
<i>Burkholderia cepacia</i>	25608	ATCC
<i>Citrobacter freundii</i>	255	PRLSW
<i>Citrobacter freundii</i>	food isolate	PRLSW
<i>Citrobacter freundii</i>	68	MNDAL
<i>Citroabcter younger</i>	food isolate	PRLSW
<i>Clostridium sporogenes</i>	11437	ATCC
<i>Edwardsiella tarda</i>	254	PRLSW
<i>Enterobacter aerogenes</i>	13048	ATCC
<i>Enterobacter aerogenes</i>	11	VADCLS
<i>Enterobacter cancerogenus</i>	food isolate	PRLSW
<i>Enterobacter cloacae</i>	260	PRLSW
<i>Enterobacter cloacae</i>	71	MNDAL
<i>Enterococcus durans</i>	6056	ATCC
<i>Enterococcus faecalis</i>	7080	ATCC
<i>Erysipelothrix rhusiopathiae</i>	19414	ATCC
Enterotoxigenic <i>E. coli</i>	H10407	CFSAN
Enterotoxigenic <i>E. coli</i>	C600/pEWD299	CFSAN
Enterotoxigenic <i>E. coli</i>	65	MNDAL
<i>Escherichai coli</i> O157:H7	43890	ATCC
<i>Escherichai coli</i> O157:H7	43888	ATCC
<i>Escherichai coli</i> O157:H7	43895	ATCC
<i>Escherichai coli</i> O157:H7	68-98	CDC
<i>Escherichai coli</i> O157:H7	24-98	CDC
<i>Escherichai coli</i> O157:H7	20-98	CDC
<i>Escherichai coli</i> O157:H7	16-98	CDC
<i>Escherichai coli</i> O157:H7	63	MNDAL
<i>Escherichai coli</i> O157:H7	4	VADCLS
<i>Escherichai coli</i> O157:H44	26	VADCLS
<i>Escherichia coli</i> O111:NM	04.SB.00067	OCPHL
<i>Escherichia coli</i> O143:H4	05.SB.00141	OCPHL
<i>Escherichia coli</i>	8739	ATCC
<i>Escherichia coli</i>	25922	ATCC
<i>Escherichia coli</i> (hemo +)	food isolate	PRLSW
<i>Escherichia coli</i> (hemo +)	28	VADCLS
<i>Escherchia coli</i> (sorbitol -)	food isolate	PRLSW
<i>Escherchia coli</i> (sorbitol -)	food isolate	PRLSW
<i>Escherchia coli</i>	64	MNDAL
<i>Escherchia coli</i>	74	MNDAL
<i>Escherichi coli</i>	8	VADCLS
<i>Klebsiella pnenumoniae</i>	13883	ATCC
<i>Klebsiella pnenumoniae</i>	75	MNDAL
<i>Klebsiella oxytoca</i>	66	MNDAL
<i>Leclercia adecarboxylata</i>	23216	ATCC

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<i>Leclercia adecarboxylata</i>	73	MNDAL
<i>Listeria innocua</i>	33090	ATCC
<i>Listeria ivanovii</i>	19119	ATCC
<i>Listeria monocytogenes</i>	19115	ATCC
<i>Listeria monocytogenes</i>	H2446	CDC
<i>Listeria monocytogenes</i>	H8393	CDC
<i>Listeria monocytogenes</i>	H8494	CDC
<i>Listeria monocytogenes</i>	H8395	CDC
<i>Listeria seeligeri</i>	35967	ATCC
<i>Morganella morganii</i>	257	PRLSW
<i>Paenibacillus polymyxa</i>	7070	ATCC
<i>Pantoea agglomerans</i>	food isolate	PRLSW
<i>Pasteurella aerogenes</i>	27883	ATCC
<i>Plesiomonas shigelloides</i>	51903	ATCC
<i>Proteus mirabilis</i>	7002	ATCC
<i>Proteus mirabilis</i>	food isolate	PRLSW
<i>Proteus kauseri</i>	13315	ATCC
<i>Proteus vulgaris</i>	69	MNDAL
<i>Providencia alcalifaciens</i>	51902	ATCC
<i>Providencia rettgeri</i>	76	MNDAL
<i>Providencia stuartii</i>	257	PRLSW
<i>Pseudomonas aeruginosa</i>	27853	ATCC
<i>Pseudomonas aeruginosa</i>	9027	ATCC
<i>Pseudomonas aeruginosa</i>	67	MNDAL
<i>Pseudomonas mendocina</i>	food isolate	PRLSW
<i>Rhodococcus equi</i>	6939	ATCC
<i>Salmonella Gaminara</i>	8324	ATCC
<i>Salmonella diarizonae</i>	12325	ATCC
<i>Salmonella Abortusequi</i>	9842	ATCC
<i>Salmonella diarizonae</i>	29934	ATCC
<i>Salmonella diarizonae</i>	252	PRLSW
<i>Salmonella Mbandaka</i>	253	PRLSW
<i>Salmonella Tennessee</i>	249	PRLSW
<i>Salmonella Lexington</i>	248	PRLSW
<i>Salmonella Havana</i>	241	PRLSW
<i>Salmonella Baildon</i>	61-99	CDC
<i>Salmonella spp.</i>	78-99	CDC
<i>Salmonella spp.</i>	87-03	CDC
<i>Salmonella spp.</i>	98-03	CDC
<i>Salmonella Braenderup</i>	H 9812	CDC
<i>Salmonella Enteritidis</i>	59	MNDAL
<i>Salmonella Heidelberg</i>	60	MNDAL
<i>Salmonella Kentucky</i>	61	MNDAL
<i>Salmonella Newport</i>	62	MNDAL
<i>Salmonella Typhimurium</i>	30	VADCLS
<i>Serratia liquefaciens</i>	27592	ATCC
<i>Serratia liquefaciens</i>	70	MNDAL
<i>Sphingomonas paucimobilis</i>	72	MNDAL
<i>Staphylococcus aureus</i>	6538	ATCC
<i>Staphylococcus aureus</i>	25923	ATCC
<i>Staphylococcus epidermidis</i>	14990	ATCC
<i>Staphylococcus xylosus</i>	29971	ATCC
<i>Streptococcus equi subsp. equi</i>	9528	ATCC
<i>Streptococcus gallolyticus</i>	9809	ATCC
<i>Streptococcus pyogenes</i>	19615	ATCC

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<i>Vibrio cholerae</i>	14035	ATCC
<i>Vibrio cholerae</i>	14033	ATCC
<i>Vibrio parahaemolyticus</i>	17802	ATCC
<i>Vibrio vulnificus</i>	27562	ATCC
<i>Yersinia enterocolitica</i>	51871	ATCC
<i>Yersinia enterocolitica</i>	27729	ATCC
<i>Yersinia kristensenii</i>	33639	ATCC

ATCC: American Type Culture Collection

OCPHL: Orange County Public Health Laboratory, CA

CDC: Centers for Disease Control and Prevention

PRLSW: Pacific Regional Laboratory – Southwest, FDA

CFSAN: Center for Food Safety and Applied Nutrition, FDA

VADCLS: Virginia Division of Consolidated Laboratory Services

MNDAL: Minnesota Department of Agriculture Laboratory

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V. Food-borne RNA Viruses

These panels were developed and adopted by the FDA BAM council, 200-2008

Inclusivity requirements

Target	Level One	Level Two	Level Three	Level Four
Norovirus	1 Strain Genogroup I 1 Strain Genogroup II	2 Strains - Genogroup I 5 Strains - Genogroup II	5 Strains - Genogroup I 10 Strains - Genogroup II	10 Strains - Genogroup I 20 Strains - Genogroup II
Hepatitis A	HM175/18f (subgenotype 1B) ATCC #VR-1402	5 Strains ^a	10 Strains ^b	20 Strains ^b
Enterovirus	Poliovirus 1 (attenuated) ATCC #VR-1562	5 Strains ^c	15 Strains ^d	30 Strains ^d

Hepatitis A Panels

Level Two (^ashould include the following strains):

HM175/18f (subgenotype 1B)	ATCC #VR-1402
HAS-15 (subgenotype 1A)	ATCC #VR-2281

Levels Three and Four (^{bs}should include the following strains):

HM175/18f (subgenotype 1B)	ATCC #VR-1402
HAS-15 (subgenotype 1A);	ATCC #VR-2281
LSH/S	ATCC #VR-2266
PA219 (subgenotype IIIA)	ATCC #VR-1357

Enterovirus Panels

Level Two (^cshould include the following strains):

Poliovirus 1 (attenuated)	ATCC #VR-1562
Coxsackievirus A3	ATCC #VR-1007
Echovirus 1	ATCC #VR-1038

Levels Three and Four (^dshould include the following strains):

Poliovirus 1 (attenuated)	ATCC #VR-1562
Poliovirus 3 (attenuated)	ATCC #VR-63
Coxsackievirus A3	ATCC #VR-1007
Echovirus 1	ATCC #VR-1038
Echovirus 21	ATCC #VR-51

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V. Food-borne RNA Viruses: (continued)

Exclusivity Panel

Target	Level One	Level Two	Level Three	Level Four
Norovirus	10 strains ^a	20 strains ^b	30 strains ^b	40 strains ^b
Hepatitis A	10 strains ^c	20 strains ^d	30 strains ^d	40 strains ^d
Enterovirus	10 strains ^e	20 strains ^f	30 strains ^f	40 strains ^f

Norovirus Panels

Level One (^amust include):

Panel A

HM175/18f (subgenotype 1B)
 Poliovirus 1 (attenuated)
 Feline calicivirus
 Murine calicivirus

ATCC #VR-1402 (or equivalent)
 ATCC #VR-1562 (or equivalent)
 ATCC #VR-2057

Levels Two, Three and Four (^amust include):

Panel A representatives *plus*:

Panel B

HAV; (subgenotype 1A)
 Coxsackievirus A3
 Echovirus 1
 Rotavirus;
 Astrovirus
 San Miguel Sea lion virus (if available)
Escherichia coli (1)
Salmonella sp. (1)
Shigella sp. (1)
Vibrio sp. (1)
Listeria sp. (1)

ATCC #VR-2281 (or equivalent)
 ATCC #VR-1007 (or equivalent)
 ATCC #VR-1038 (or equivalent)
 ATCC #VR-2018 (or equivalent)

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Hepatitis A Panels

Level One (*must include*):

Panel C

norovirus genogroup I
norovirus genogroup II
Poliovirus 1 (attenuated);
Coxsackievirus A3

ATCC #VR-1562 (or equivalent)
ATCC #VR-1007 (or equivalent)

Levels Two, Three and Four (*must include*):

Panel C representatives *plus*

Panel D

Echovirus 1
Rotavirus
Feline calicivirus
Astrovirus
Escherichia coli (1)
Salmonella sp.(1)
Shigella sp.(1)
Vibrio sp. (1)
Listeria sp. (1)

ATCC #VR-1038 (or equivalent)
ATCC #VR-2018 (or equivalent)
ATCC #VR-2057

Enterovirus Panels:

Level One (*must include*):

Panel E

norovirus genogroup I
norovirus genogroup II
HM175/18f (subgenotype 1B)

ATCC #VR-1402 (or equivalent)

Levels Two, Three and Four (*must include*):

Panel E representatives *plus*

Panel F

HAV (subgenotype 1A)
Rotavirus
Feline calicivirus
Escherichia coli (1)
Salmonella sp.(1)
Shigella sp.(1)
Vibrio sp. (1)
Listeria sp. (1)

ATCC #VR-2281 (or equivalent)
ATCC #VR-2018 (or equivalent)
ATCC #VR-2057

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VI. Protozoan Parasites

A. *Cyclospora cayetanensis*

a. Inclusive Panel

As many geographic and outbreak isolates as are available

b. Exclusive Panel

Cyclospora spp.

C. cercopitheci

C. colobi

C. papionis

Eimeria spp.

E. acervulina

E. bovis

E. burnetti

E. maxima

E. mitis

E. mivati

E. necatrix

E. nieschulzi

E. praecox

E. tenella

Additional Microorganisms

Cryptosporidium spp

Apicomplexa

Bacterial isolates

B. *Cryptosporidium* spp.

Inclusive Panel

C. hominis

C. parvum (multiple strains available)

Exclusive Panel

C. baileyi

C. canis

C. cuniculus

C. felis

C. meleagridi

C. muris

C. serpentis

Cyclospora ssp.

Apicomplexa

Bacterial isolates