WAC 16-309-020 Definitions. "Accessioning" means the process of receiving and organizing samples for testing in a laboratory.

"Accreditation" means the formal recognition by the accrediting authority that a cannabis laboratory is capable of producing accurate and defensible analytical data. This recognition is signified by the issuance of a written certificate, accompanied by a scope of accreditation indicating the parameters for which the laboratory is accredited.

"Accreditation year" means the one-year period as stated on the certificate of accreditation.

"Accrediting authority" means the recognized agency that has the authority to perform audits and inspections to assure laboratories meet the standards established in rule and will issue, suspend, or revoke accreditation to the laboratory.

"Accuracy" means the degree to which an analytical result corresponds to the true or accepted value for the sample being tested. Accuracy is affected by bias and precision.

"Action level" means the level of concern, decision point, cut-off, or target level for an analyte that must be reliably identified or quantified to be considered positive in a sample.

"Aliquot" means a portion of a larger whole, especially a sample taken for chemical analysis or other treatment.

"Analyte" means the constituent or property of a sample measured using an analytical method.

"Analytical batch" means a group 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 no more than 24 hours. Batch size is usually limited to instrument loading capacity.

"Analytical data" means the recorded qualitative and/or quantitative results of a chemical, physical, biological, microbiological, radiochemical, or other scientific determination.

"Analytical method" means a written procedure for acquiring analytical data.

"Autoclave" means a steam sterilizer device that is intended for use by a laboratory to sterilize biohazardous products by means of pressurized steam.

"Bias" means 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.

"Biohazardous" means products that are infectious, and sharps materials such as needles and broken glass.

"Biosafety cabinet (BSC)" means biocontainment equipment used in biological laboratories to provide personnel, environmental, and product protection.

"Blank" means 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, system blanks, and field blanks. Response for target analytes must be less than 50 percent of the limit of quantitation.

"Board" means the Washington state liquor and cannabis board.

"Calibration" means 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 curve" means the functional relationship between instrument response and target analyte concentration determined for a series of calibration standards. The calibration curve is obtained by plotting the instrument response versus concentration and performing a regression analysis of the data.

"Calibration standard (CalS)" means a known amount or concentration of analyte used to calibrate the measuring/detection system. May be matrix matched for specific sample matrices.

"Cannabis laboratory analytical standards program (CLASP)" means the interagency coordination team for cannabis laboratory quality standards. The team consists of the department of agriculture (WSDA), the liquor and cannabis board (LCB), and the department of health (DOH). The WSDA is the designated lead agency for the team.

"Cannabis laboratory" or "laboratory" means a facility:

(a) Under the ownership and technical management of a single entity in a single geographical location;

(b) Where scientific determinations are performed on samples taken from cannabis plants and products; and

(c) Where data is submitted to the customer or regulatory agency, or other entity requiring the use of an accredited laboratory under provisions of a regulation, permit, or contractual agreement.

"Carryover" means 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)" means a 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).

"Certifying scientist" means the person authorized by the scientific director to review the analytical results and issue the certificate of analysis for cannabis samples who has the education, training, and competencies to perform such duties. No certifying duties may be performed by any technical personnel directly involved with the conduct of the analytical findings or testing.

"Clean room" means an isolated environment, strictly controlled with respect to: Airborne particles of viable and nonviable nature, temperature, humidity, air pressure, air flow, air motion, and lighting.

"Continuing calibration verification standard (CCV)" means one of the primary calibration standards used to verify the acceptability of an existing calibration.

"Control" means a sample used to evaluate whether an analytical procedure or test is operating within predefined tolerance limits.

"Corrective action" means the process of identifying and eliminating the cause of a problem to prevent it from happening again.

"Cut-off concentration" means, 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).

"Decision point" means the level of concern, action level, cut-off, or target level for an analyte that must be reliably identified or quantified to be considered positive in a sample.

"Department" means the state of Washington department of agriculture when the term is not followed by another state designation.

"High complexity testing" means laboratory tests that require a level of expertise to perform the test due to the complexity of the test methodology and the risk of erroneous results. These tests require a higher level of scientific knowledge and experience, troubleshooting skills, and quality control checks.

"Initial calibration blank (ICB)" means an aliquot that consists of the same solvent used for the calibration standards, but without the analytes, analyzed following the initial calibration and prior to quantitating any samples to verify the absence of instrumental interferences.

"Initial calibration verification (ICV)" means a second source standard that is used to verify the correctness of the primary source calibration curve. This standard is initially analyzed prior to sample analysis.

"Incubation" means the act of storing microorganisms at a predetermined temperature, for a predetermined amount of time, to allow for growth of microorganism colonies.

"Inoculation" means the act of introducing microbes into a culture media to induce reproductive growth.

"Interference" means 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" means within-laboratory precision obtained under variable conditions, e.g., different days, different analysts, and/or different instrumentation.

"Internal standard (IS)" means 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 must have similar physiochemical properties to those of the analyte.

"Laboratory control sample (LCS)" means a portion of respective matrix blank that is spiked with known quantities of target analytes and processed as if it were a sample. The LCS is used to evaluate the accuracy of the methodology.

"Laboratory information management system (LIMS)" means a computer software system that is used to collect information about a sample, track results through the testing process, and disseminate the final results to the customer and regulating agency.

"Limit" means a point or level beyond which something does not or may not exceed or pass. Something that bounds, restrains, or confines to the utmost extent. Limits are used to define a specific concept in analysis. Decision points and action levels are examples of limits.

"Limit of detection (LOD)" means 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 instrument capability it is known as an instrument detection limit (IDL) or when applied to the complete analytical method it is often referred to as the method detection limit (MDL).

"Limit of quantitation (LOQ)" means the minimum amount or concentration of analyte in the test sample that can be quantified with acceptable precision and accuracy. Limit of quantitation (or quantification) is variously defined but must be a value greater than the MDL and applies to the complete analytical method.

"Linearity" means 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.

"Low complexity testing" means laboratory tests that require little to no expertise to perform the test due to the lack of complexity of the test methodology and the low risk of erroneous results. These tests require a low level of scientific knowledge and experience, troubleshooting skills, and quality control checks.

"Matrix" means the material to be analyzed including, but not limited to, flower, trim, leaves, other plant matter, cannabis concentrate, cannabis infused, and edibles.

"Matrix blank" means 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" means 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 spike (MS)" means 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.

"Matrix spike duplicate (MSD)" means a replicate of a sample that has known concentrations of analytes added to it. It is used to evaluate the precision and bias of a method for a specific sample matrix. A matrix spike duplicate is processed along with the same sample batch and follows the same sample preparation and analytical testing.

"Method" means a particular procedure that systematically describes how a cannabis test is performed and analyzed.

"Method validation" means the process of demonstrating or confirming that a method is suitable for its intended purpose. Validation criteria include demonstrating performance characteristics such as accuracy, precision, selectivity, limit of detection, limit of quantitation, linearity, range, ruggedness, and robustness.

"Method validation report" means documentation generated detailing the evidence which established the suitability of the method for its intended use.

"Moderate complexity testing" means laboratory tests that require a level of expertise to perform the test due to the complexity of the test methodology and the risk of erroneous results. These tests require a moderate level of scientific knowledge and experience, troubleshooting skills, and quality control checks.

"Parameter" means the combination of one or more analytes determined by a specific analytical method.

"Performance criteria" means defined, measurable performance characteristics of an analytical method or process-specific requirements for accuracy, precision, recovery, specificity (selectivity), sensitivity (limits of detection), inclusivity, exclusivity, linearity, range, and scope of application. Criteria may also be set by defining process (i.e., method validation protocols).

"Performance-based methods approach" means or conveys "what" needs to be accomplished, but not prescriptively "how" to do it. It is a measurement system based upon established performance criteria for accuracy and precision with use of analytical test methods. Under this measurement system, laboratories must demonstrate that a particular analytical test method is acceptable for demonstrating compliance. Performance-based method criteria may be published in regulations, technical guidance documents, permits, work plans, or enforcement orders.

"Precision" means the closeness of agreement between independent test results obtained under specified conditions. This 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.

"Preparation batch" means samples that are prepared and/or analyzed together with the same process and personnel, using the same lot(s) of reagents. A preparation batch consists of one to 20 samples (not including matrix blanks, LCS, matrix spikes and matrix duplicates) of the same matrix.

"Proficiency testing (PT)" means evaluation of the results from the analysis of samples, the true values of which are known to the supplier of the samples but unknown to the laboratory conducting the analyses.

"Proficiency testing provider" means a third-party company, organization, or entity not associated with certified laboratories or a laboratory seeking certification that is approved by the department and provides samples for use in PT testing.

"Qualitative analysis/method" means 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.

"Quality assurance (QA)" means activities intended to assure that a quality control program is effective. A QA program is a totally integrated program for assuring reliability of measurement data.

"Quality assurance (QA) manual" means a written record intended to assure the reliability of measurement data. A QA manual documents policies, organization, objectives, and specific QC and QA activities.

"Quality control (QC)" means the routine application of statistically based procedures to evaluate and control the accuracy of analytical results.

"Quantitative analysis/method" means 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" means component of measurement error that in replicate measurements varies in an unpredictable manner. See also "precision."

"Range" means the interval of concentration over which the method provides suitable accuracy and precision.

"Reagent blank" means 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" means the proportion of analyte (incurred or added) remaining at the point of the final determination from the analytical portion of the sample measured. Commonly expressed as a percentage.

"Reference material" means a material, sufficiently homogeneous 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" means 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 percent difference (RPD)" means the comparison of two quantities while taking into account the size of what is being compared as calculated:

$$\text{percent RPD} = |(\text{sample} - \text{duplicate})| / ((\text{sample} + \text{duplicate})/2) * 100$$

"Repeatability (RSDr)" means precision obtained under observable conditions at a specific concentration/spike level 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 matrix" means a cannabis matrix used to assess probable analytical performance with respect to other matrices, or for matrix-matched calibration, in the analysis of broadly similar cannabis products.

"Reproducibility (RSDR)" means precision obtained at a specific concentration/spike level 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" means 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.

"Sample" means representative portion of material taken from a larger quantity of homogenate for the purpose of examination or analysis, which can be used for judging the quality of a larger quantity for the purpose of compliance.

"Sample package" means the sealed, tamper-resistant container (e.g., plastic bag, box, etc.) which contains the quality control sample and transportation manifest from grower or producer collection.

"Scientific director" means the individual with the proper education and training responsible for the overall laboratory operations, compliance, and training of personnel.

"Selectivity" means 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. Also known as specificity.

"Sensitivity" means 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.

"Shipping container" means the container (e.g., box, mailer, bag) in which the collector, or laboratory has placed one or more sample packages for transport.

"SI" means the international system of units and more commonly known as the metric system. This is the international standard for

measurement. Critical laboratory measurements must be traceable to this system.

"Signal to noise ratio (SNR)" means a measure that compares the level of desired signal of an analyte to the level of background noise from the instrument thus establishing the instrument's ability to differentiate between the two.

"Specificity" means the ability of a method to measure analyte(s) in the presence of components which may be expected to be present.

"Spike recovery" means 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 must 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 must be calculated according to those procedures.

"Spore bioindicators" means a biological indicator that is made up of a carrier material, on which bacterial spores with a defined resistance to the sterilization process have been applied.

"Standard operating procedures (SOP)" means a written document that details the method for an operation, analysis, or action with thoroughly prescribed techniques and steps, and that is officially approved as the method for performing certain routine or repetitive tasks.

"Standard reference material (SRM)" means a certified reference material issued by the National Institutes of Standards and Technology (NIST) in the United States.

"Standard (solution)" means a solution containing a precisely known concentration of an element, analyte, or a substance.

"Sterilization" means a validated process used to render a product free of all forms of viable microorganisms.

"Stock standard" means a concentrated solution of method analyte(s) prepared in the laboratory from referenced and certified analyte standards, where available, or a concentrated solution of method analyte(s) purchased directly from a referenced and certified source, where available.

"Surrogate (SUR)" means a pure compound that shall not be found in any sample but is similar in nature to the compounds of interest. This compound is added to a sample in a known amount before processing to monitor method performance for each sample. It is quantified in a manner analogous to that used for the analytes. The SUR is useful in ensuring that there were no problems in sample preparation.

"Systematic error" means component of measurement error that in replicate measurements remains constant or varies in a predictable manner. This may also be referred to as bias.

"Target analytes" means those analytes required to be tested on samples by the laboratory as defined in chapter 314-55 WAC.

"Testing personnel" means those qualified on the basis of education, training, experience and demonstrated skills to perform analytical testing on cannabis, cannabis concentrates, and cannabis infused products.

"Uncertainty" means nonnegative parameter characterizing the dispersion of the values being attributed to the measured value.

"Unidirectional flow" means performing a standard operating procedure in a single direction to reduce the risk of microbiological contamination.

"Upper level of linearity (ULOL)" means the highest level at which an instrument can measure the concentration of a substance accurately within an acceptable measure of deviation.

"Validated methods" means the methods that have undergone validation.

"Validation (method)" means the process of demonstrating or confirming the performance characteristics through assessments of data quality indicators for a method of analysis.

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