Colorado Department of Public Health and Environment

Laboratory Service Division

Marijuana Edibles Sampling Procedure

1. PURPOSE

The purpose of the sampling standard operating procedure (SOP) is to outline a best practices procedure for the sampling of marijuana edibles products for analysis by certified testing facilities.

MED requires a representative production batch of samples for all edibles. This can be, for example, an entire cookie, candy, drink or other commonly sold portion. The samples shall be submitted to the testing facility in the "final sale" packaging.

2. TERMINOLOGY AND ACRONYMS

Division – Marijuana Enforcement Division, Colorado Department of Revenue (MED)

METRC – Marijuana Enforcement Tracking Reporting Compliance

Production batch – A manufacturing event of batch of material containing any amount of Medical or Retail Marijuana Concentrate of the same category and produced using the same extraction methods, standard operating procedures and an identical group of Harvest Batch(es) of Medical or Retail Marijuana; or (b) any amount of Medical or Retail Marijuana Product of the same exact type, produced using the same ingredients, standard operating procedures and the same Production Batch(es) of Medical or Retail Marijuana Concentrate.

Representative sample(s) – a sample or set of samples that are selected for compliance testing that are indicative of the entire production batch or lot of material in all characteristics of interest. A representative sample(s) must be submitted in the final packaging.

Sample(s) – Any item collected from a Marijuana Establishment or Marijuana Business provided to a Marijuana Testing Facility for testing. The following is a non-exhaustive list of types of Samples: Marijuana, Marijuana Concentrate, Marijuana Product, soil, growing medium, water, solvent or swab of a counter or equipment.

Sampling team – The facility or MED personnel, or other designated sampler, who have been assigned responsibility for sampling activities. The sampling team must, at minimum, consist of at individuals (one individual taking the sample and the other reviewing sampling information prior to entry into METRC and transport).

Test batch – A group of samples that are derived from a single Production Batch. The combined subset of Samples is collectively submitted for to a licensed testing facility for testing purposes.

3. EQUIPMENT AND SUPPLIES

Equipment (items used repeatedly)
Forceps
Isopropyl alcohol (≥70%)
METRC Manifest
Chain of Custody Labels
Security tamper evident tape
Custody seals
Sample labels
Ziploc bags
Cooler
Permanent ink pen
Equipment logbook
Analytical balance or scale – The scale used to weigh product to be transported shall be tested and approved in accordance with measurement standards established in 35-14-127, C.R.S.

Supplies (items used only once)
Sterile/sanitized nitrile, latex, or rubber gloves
Ice/cold packs
Deionized water

4. CONTROLS AND FREQUENCY

4.1 Sampling Frequency

Sampling shall be completed for each production batch as outlined in 1 CCR 212-1/2 R/M 1500 rule series.

4.2 Sample Amount

The Sample amount collected must meet the requirements outlined in 1 CCR 212-1/2 R/M 1500 and must be sufficient to complete the analyses as defined by the marijuana testing facility and/or Colorado Department of Agriculture. The samples should be collected and combined into a single package for submission to the laboratory.

4.3 Sampler Requirements

All samples must be collected by MED personnel or facility approved samplers in accordance with the Division's sampling regulations and/or rules. Facility approved samplers can be either internal personnel trained to collect samples or a third party authorized by the facility to collect samples.

Division personnel, at its sole direction, may assign Division personnel to collect samples. Marijuana businesses (retail or medical), its owners, employees, or representatives shall not attempt to influence or interfere with the sample selection or collection process.

4.4 Sample Collection Data

The sampling document shall include the following information:

1) Person(s) performing the sampling and their company affiliation
2) Time and date of sampling
3) Product name
4) Production date
5) METRC identification
6) Additional comments – note anything that may affect the quality of the data analysis, such as infusion properties, product type, etc.
7) Remediation(s), if any
8) Identify portion size or serving size, number of servings per final packaging unit
9) Any deviations from sampling procedure and/or sampling plans
10) Person(s) reviewing the sampling process and their company affiliation

A witness shall review the labeled samples to the METRC manifest prior to the samples leaving the facility for each transport event. The witness shall initial the manifest indicating the labels and manifest are accurate. The witness must be an independent person not involved in the initial sampling.

5. PROCEDURE

The procedure is designed to ensure that each sampling event shall produce samples that are representative of the production batch specified, regardless of whether the product is for retail or medical purposes.

Sample Plan

A sampling plan generated by the person(s) responsible for the sampling event will be reviewed by the sampling team. This plan should include, at a minimum, the following information:

- Client/Affiliation Responsible & Contact Information (if different from those collecting sample)
- Production batch size
- Product(s) to be sampled
- Sample procedure to be followed (i.e. lab specified, CDA specified, LSD SOP, etc.)
- Sampling locations to be collected (determined from the Sampling Location Excel Spreadsheet)
- Testing facility performing the analyses
- Any additional information necessary to guide the sample team through event-to-project specifications

An example sample plan can be found in Appendix A.

5.1 Pre-Sampling Procedure

Equipment Preparation, Calibration and Environmental Controls

Sampling equipment shall be collected and organized into the area where the sampling shall occur and inspected for damage and cleanliness prior to use. All forceps shall be washed, isopropyl alcohol rinsed, and dried prior to sampling each batch.

Sample containers shall be new and inspected to be clean and dry prior to the sampling event. The appropriate number of containers, defined by the marijuana testing facility and/or Marijuana Enforcement Division, shall be collected for the sampling event and packaged appropriately.

All required paperwork shall be populated, as much as possible, with pertinent information, prior to the sampling event.

5.2 Sample Collection

Minimum Number of Samples

A Sample of marijuana edible product must be packaged for sale prior to transfer to a Marijuana Testing Facility. Each such package of product shall constitute one Sample. At a minimum, each Test Batch of Retail or Medical Marijuana Edibles must be comprised of at least the following number of separately taken Samples:

a. For Retail or Medical Marijuana Edible Production Batches consisting of up to 100 units, a minimum of two separate samples must be submitted as one Test Batch.

b. For Retail or Medical Marijuana Edible Production Batches consisting of up to 500 units, a minimum of four separate samples must be submitted as one Test Batch.

c. For Retail or Medical Marijuana Edible Production Batches consisting of up to 1000 units, a minimum of six separate samples must be submitted as one Test Batch.

d. For Retail or Medical Marijuana Edible Production Batches consisting of up to 5000 units, a minimum of eight separate samples must be submitted as one Test Batch.

e. For Retail or Medical Marijuana Edible Production Batches consisting of up to 10,000 units, a minimum of ten separate samples must be submitted as one Test Batch.

f. For Retail or Medical Marijuana Edibles comprised of Production Batches consisting of greater than 10,000 units, a minimum of twelve separate samples must be submitted as one Test Batch.

Sample Collection

The Samples shall be collected from product in its final, ready-for-sale state.

The sampler shall wear sterile/sanitized nitrile, latex, or rubber gloves during sample collection. The gloves shall be changed between each production batch to minimize potential cross contamination.

The sample product containers shall be labeled and sealed with tamper evident tape at the time of sampling.

All vials shall be immediately stored at $6^{o} \pm 4^{o}$ C prior to shipping.

Coolers shall be sealed and a custody seal or tamper evident tape placed on the cooler with the sampler(s) initials, date, and time.

The Samples should be collected in as random a fashion as possible. This can be accomplished by dividing the production process into thirds and selecting representative and random samples from each 1/3 of the production batch. Take the total number of Samples produced, divide by one-third and select randomly from each third section of the batch. Each sample within each 1/3 of the batch must be selected randomly. For example, a production batch of 1000 sample units,

six samples are required; therefore, two samples shall be taken from different locations within the beginning third, two from different locations within the middle third, and two from different locations within the end third. The Sampling Location Excel Spreadsheet will calculate this automatically when the total number of Samples in the batch is entered into the orange highlighted cells.

5.3 Post-sampling Procedure

Sample Collection Review

All samples collected shall be verified to the METRC manifest, and/or the chain of custody for transporting the samples to the testing facility. A trained sampler or MED employee shall perform the review prior to sample submittal to the testing facility.

Equipment and Sampling Area Clean-up

The area where the production batch sampling occurs shall be cleaned, isopropyl alcohol rinsed, and dried between sampling events.

Forceps and any additional sampling equipment (i.e. balances) shall be cleaned, isopropyl alcohol rinsed, and dried between sampling production batches.

Sample Storage and Retention

Immediately store the samples under refrigeration on ice and retain in a cool environment to ensure that the samples arrive at the laboratory at $6^{o} \pm 4^{o}$ C, or as is required to maintain the temperature storage requirements for the edible sample(s) (e.g. frozen edibles must remain frozen).

Protection/Preservation – other than thermal preservation, no other protection or preservation protocols have been developed or are required.

Samples shall be stored in a manner to prevent unauthorized access to samples and kept under custody seal until acceptance by the testing facility.

Samples shall be destroyed, when necessary, per applicable Colorado MED disposal rules.

5.4 Transport

Transport should be via a method to ensure that the samples arrive within two days to the marijuana testing facility at 6° ± 4° C. Samples may only be transported by appropriately licensed personnel.

6. QUALITY RECORDS

Retained Quality Records

The following are the list of copies of reviewed documents to be retained for each production batch:

METRC sample manifest
Transport documentation
Acknowledgement of the testing facility sample receipt

Quality records shall be retained for a period of the current year and the proceeding three (3) years after analysis has been completed.

7. TROUBLESHOOTING

Not applicable

8. INTERFERENCES

Not applicable

9. HEALTH AND SAFETY WARNINGS

9.1 Solvents

All solvent handling must be in accordance to the facilities Hazard Communication Plan, standard operating procedures, and/or the most recent Safety Data Sheet (SDS).

All waste, including any solvent waste, must be disposed of in accordance with local, state and federal regulations.

Use of solvents should only be carried out in well-ventilated area or in a fume hood.

10. REFERENCES

1. ISO 948-1980 (E) Spices and condiments – Sampling

11. REVISION HISTORY

Version Number	Version Date	Description of Change
Revision 0	12/27/2017	Initial Release

12. APPENDICES

Appendix A: Sampling Plan Example

The following is an example of a sampling plan. Any sample plan format that contains the information in the sampling plan section is acceptable.

Sampling Plan

Facility Name: _____

Location:

_____

_____

Sampler Name: _____

METRC ID: _____

Batch ID: _____ Batch Size: _____

Product ID: _____

Sampling Procedure: _____

Sampling Locations: (Attach print out from the Sampling Location Excel spreadsheet)

Testing Facility: _____

Reviewed by: _____

Date: _____

Colorado Department of Public Health and Environment

Laboratory Service Division

Marijuana Edibles Sampling Procedure