



CONNECTICUT DEPARTMENT OF CONSUMER PROTECTION

MICHELLE H. SEAGULL | COMMISSIONER

Hemp Manufacturer Testing Standards

The Department of Consumer Protection (DCP) regulates hemp manufacturing in the State of Connecticut, and is responsible for setting testing standards for manufactured hemp products. These testing standards are meant to ensure the safety and compliance of products regulated by DCP.

This document includes the testing standards that must be followed by manufacturers and the laboratories they work with. Definitions from [Public Act 19-3](#) that may be helpful in the understanding of terminology used in these requirements are included at the end of this document.

Hemp Laboratory Testing Requirements

Before a Connecticut manufacturer receives any batch of hemp from in or out of state, a manufacturer must obtain a copy of hemp testing results from the grower for the batch that demonstrates the batch contains not more than 0.3% THC on a dry weight basis. The initial hemp testing conducted at the grower level is only for the purposes of verifying the THC concentration.

The manufacturer must contract with an independent testing laboratory to perform additional testing on the batch to ensure product safety. Each batch must undergo this additional testing prior to converting the hemp into a consumable product. Batches of hemp that a manufacturer intends to use in a consumable product must undergo a random sampling test by an independent testing laboratory. The independent testing laboratory shall select the samples to be tested.

Laboratories conducting this additional testing must be registered with DCP as a controlled substance laboratory.

Each batch ***must be segregated and cannot be used*** for any purpose until the independent testing laboratory provides passing results from its tests and analysis to the manufacturer.

Sample Collection Method

The manufacturer is responsible for ensuring the following occurs:

- If the hemp batch has been ground, chopped, or otherwise homogenized prior to shipment, the manufacturer shall mix the product to greatest degree possible and a representative from the independent testing laboratory shall withdraw samples from the lower, middle, and upper portions of the batch.
- If the product is not already ground, chopped or otherwise homogenized, a representative from the independent testing laboratory shall withdraw an equal number of subsamples from different areas of the hemp plant (leaf, stem and flower.)

Samples and Subsamples for Testing

Samples are groupings of subsamples that total 5 grams or more for evaluation by the independent testing laboratory. Samples from each batch will require a certain number of subsamples based on total batch weight. The larger the batch, the more subsamples per sample will be required. The following are the requirements:

- Batch of ≤ 5 kg = 6 subsamples per sample
- Batch of 5-25 kg = 12 subsamples per sample
- Batch of ≥ 25 kg = 24 subsamples per sample

Types of Testing Required to be Completed

The independent testing laboratory shall test each sample for THC concentration level, microbiological contaminants, mycotoxins, heavy metals and pesticide chemical residue.

THC Concentration Level Testing

Each sample must have no more than 0.3% THC.

- **If a sample of hemp does not pass the THC concentration level:** the manufacturer shall either dispose of the entire batch from which the sample was taken or combine at least two different batches of hemp to achieve a THC concentration of not more than 0.3% on a dry weight basis.
- **If a sample of hemp batch passes the THC concentration level:** the sample must also pass testing standards for microbiological contaminants, mycotoxins, heavy metals and pesticide chemical residue tests. Then, the independent testing laboratory shall release the entire batch for manufacturing.

If the manufacturer elects to combine different batches for the purpose of diluting the THC concentration level, the manufacturer must provide advance written notification to the Department of Consumer Protection. The combined hemp batch must be tested using the process outlined above, and the manufacturer shall retain records demonstrating: (1) which batches were combined, (2) the independent testing laboratory report records associated with each individual batch combined, and (3) the results of the testing of the combined batches.

Microbiological, Mycotoxin, Heavy Metal or Pesticide Chemical Residue Testing

- **If a sample of hemp does not pass the microbiological, mycotoxin, heavy metal or pesticide chemical residue test, based on the standards set forth in this section:** the manufacturer shall dispose of the entire batch from which the sample was taken. Batches that fail based on the microbiological, mycotoxin, heavy metal or pesticide chemical residue test shall not be combined with any other batches of hemp.

All microbiological testing shall occur after the entire batch of hemp is decarboxylated. Decarboxylation must involve heating the entire batch of hemp to a temperature of no less than 90° C for 60 minutes or longer. In a microbiological test, a hemp sample shall “pass” if it satisfies the standards in Chapters 561 and 2023 of the United States Pharmacopeia, which can be obtained at <http://www.usp.org>.

In the mycotoxin test, a hemp sample shall “pass” if it meets the following standards:

Test	Specification
Aflatoxin B1	<20 uG/KG of Substance
Aflatoxin B2	<20 uG/KG of Substance
Aflatoxin G1	<20 uG/KG of Substance
Aflatoxin G2	<20 uG/KG of Substance
Ochratoxin A	<20 uG/KG of Substance

In the heavy metal test, a hemp sample shall “pass” if it meets the following standards:

Metal	Acceptable Limits uG/KG BW/Day
Arsenic	<0.14
Cadmium	<0.09
Lead	<0.29
Mercury	<0.29

In the pesticide chemical residue test, a hemp sample shall “pass” if it satisfies the most stringent acceptable standard for a pesticide chemical residue in any food item as set forth in [Subpart C of the federal Environmental Protection Agency’s regulations for Tolerances and Exemptions for Pesticide Chemical Residues in Food, 40 CFR 180](#).

Failed Test Result Filings

The independent testing laboratory shall simultaneously submit an electronic copy of test results for any batch that does not pass any or all of the tests described above with DCP and the manufacturer. In addition to filing a copy with DCP, the laboratory shall maintain the laboratory test results for a minimum of three (3) years and make them available to DCP upon request.

Within five (5) business days of receipt of a failed test result, the manufacturer shall provide written notice to DCP describing whether the product will be destroyed or combined with another batch, if combining with another batch for the sole purpose of THC dilution.

Definitions

The below definitions apply to the production of hemp in the State of Connecticut, and are from [Public Act 19-3: An Act Concerning a Pilot Program for Hemp Production](#). These definitions may help you most completely understand the testing requirements above.

"Consumable" means hemp products intended for human ingestion, inhalation, absorption or other internal consumption, that contains a THC concentration of not more than 0.3 per cent on a dry weight basis;

"Hemp" has the same meaning as provided in the United States Agricultural Marketing Act of 1946, 7 USC 1621 et seq., as amended from time to time;

"Hemp products" means products with a delta-9-tetrahydrocannabinol concentration of not more than 0.3 per cent on a dry weight basis derived from, or made by, the processing of hemp plants or hemp plant parts;

"Independent testing laboratory" means a facility:

(A) For which no person who has any direct or indirect financial or managerial interest in the laboratory and also has any direct or indirect interest in a facility that: (i) Processes, cultivates, distributes, manufactures or sells hemp or hemp products, or marijuana, as defined in section 21a-240 of the Connecticut general statutes, in any state or territory of the United States; or (ii) Cultivates, processes, distributes, dispenses or sells marijuana; and

(B) That is accredited as a laboratory in compliance with section 21a-408-59 of the Regulations of Connecticut State Agencies;

"Laboratory" means a laboratory located in the state that is licensed by the Department of Consumer Protection to provide analysis of controlled substances pursuant to section 21a-246 of the general statutes, The University of Connecticut, the Connecticut Agricultural Experiment Station, the Department of Public Health, the United States Food and Drug Administration, the United States Department of Agriculture or a facility that meets the following additional criteria that is accredited as a testing laboratory to International Organization for Standardization (ISO) 17025 by a third party accrediting body such as the American Association for Laboratory Accreditation or the Assured Calibration and Laboratory Accreditation Select Services;

"Pesticide" has the same meaning as "pesticide chemical" as provided in section 21a-92 of the general statutes; and

"THC" means delta-9-tetrahydrocannabinol.