



BS4 A Tour of a Cannabis Extract Manufacturing Facility in Maine

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Learning Overview: After attending this presentation, attendees will have a better understanding of the operation of a small state-licensed and inspected cannabis extract manufacturing facility.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by promoting an understanding of the processes used to concentrate cannabinoids, how products are diluted, prepared, and packaged in order to comply with the relevant laws and regulations, and may be helpful for attendees who are assisting in building a local or state jurisdiction's medical or recreational marijuana program.

The state of Maine enacted a medical marijuana law after a citizen-led ballot initiative passed in November 1999. Since that point in time, multiple amendments have been made to the statute following feedback from patients, caregivers, medical providers, and a specially developed task force. Although a 2016 law was passed to allow for the recreational use of marijuana, and a 2017 law was passed concerning taxation and other regulations surrounding recreational marijuana, the commercial sale of the plant and products made from it have not yet begun.

Today, Maine permits both growing and processing of marijuana by individuals holding a medical card (i.e., "patients"). In addition, patients and caregivers are allowed to use a third-party manufacturing facility to convert their harvested marijuana or hemp into concentrated forms. These facilities are registered, inspected, and licensed by the state of Maine. Patients and caregivers are expected to adhere to strict procedures regarding site safety and security, the quantity and type of plants on site, the quantity of harvested product on site, the use of "inherently hazardous substances," and the disposal of waste materials, among other standards.

This presentation will briefly cover the regulations in place for Maine's program, then focus on the specifics with respect to a small, registered manufacturing facility. Chemists from the New Hampshire State Police Forensic Laboratory were given the opportunity to tour one such facility in the summer of 2019 while extractions were in progress. This cannabis extract manufacturing facility employs super critical carbon dioxide processing of harvested marijuana and/or flowering hemp grown by patients or their caregivers to produce highly purified concentrates devoid of terpenes. In addition, the facility was equipped with a closed-loop extraction system to produce butane honey oil, shatter, and "diamonds." Discussions regarding purity, concentration, cannabinoid profiles, and all aspects of the operation, including the evolution of the facility's practices over time, took place with the owner/operator of the facility. Attendees will be shown the outdoor grow area, extraction and purification processes, preparation of food products, and product packaging materials at the visited facility.

Given the increased number of states where cannabis products are legal for medical or recreational use, it is important for those involved in the analysis of seized drugs to have an understanding of the processes used to concentrate cannabinoids from harvested marijuana and flowering hemp. Furthermore, it is helpful to be familiar with how products must be diluted, prepared, and packaged in order to comply with relevant laws and regulations.

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