WHITEPAPER

Why Marijuana Testing is Necessary to Ensure Safety

Natalie Brown
Director of Operations
MoCann Testing / EKG Labs

MOCANNTRADE

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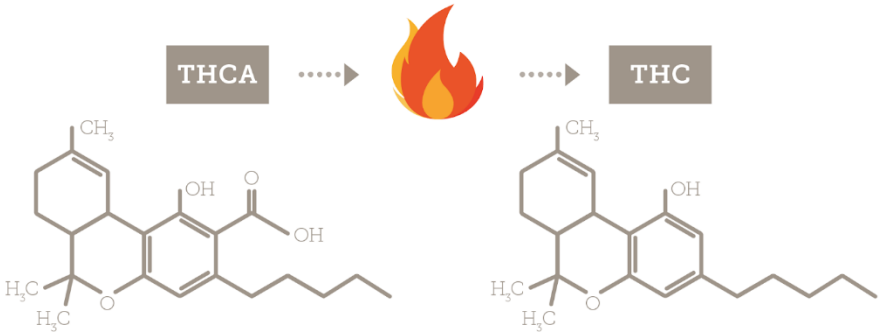
Introduction

The increase of products, typically marketed as hemp-derived products containing delta-8-tetrahydrocannabinol (Δ8-THC, pronounced "delta8-THC") or tetrahydrocannabinolic acid (Δ9-THCA) has raised significant concerns surrounding their impact on public health and safety because they are unregulated.

Δ8-THC occurs at insignificant levels in nature in the cannabis flower. Δ9-THC -A is found in high concentrations in *living cannabis plants*. Δ9-THCA converts *DIRECTLY* to Δ9-THC once heat is applied (See Exhibit 1).

Exhibit 1: Δ9-THCA to Δ9-THC Conversion



Products containing Δ8-THC and Δ9-THCA are being marketed and sold as safe and legal hemp-based products to consumers. However, these products lack any formal or informal oversight by public health agencies. Unlike hemp-based products containing CBD, a non-psychoactive cannabinoid, Δ8-THC and Δ9-THCA are psychoactive. The process to derive Δ8-THC for addition into products begins with cannabidiol (CBD).

The conversion of CBD to these psychoactive compounds involves the use of harsh and toxic chemicals that are not safe for human consumption. The process not only creates Δ8-THC but also other cannabinoids, including delta-9- tetrahydrocannabinol (Δ9-THC). The impurities resulting from the creation of these products are not well characterized. These products are then marketed and sold in unlicensed dispensaries or stores that are not subject to the demanding regulatory requirements that licensed marijuana facilities are subjected to.

The Difference: Licensed vs. Unlicensed

Stringent testing requirements are among the most significant differences between the unregulated products above and those sold in licensed dispensaries. An essential step in ensuring the safety of marijuana consumers is to confirm that marijuana products meet specific **safety thresholds** through accurate laboratory testing for bacteria, molds, pesticides, heavy metals, and solvents.

Unlicensed, Unregulated Fake Dispensary

No Age Requirement, No Required Testing, No Regulations, No Labeling Requirement and No Distance Requirement from A Church, School or Daycare

Licensed, Regulated Missouri Dispensary

21+ Only W/ID, All Products Regulated & Tested with Certificate of Analysis On Package Compliance Label, Cannot Be Within 1000ft of a Church, School or Daycare Unless Otherwise Allowed By Local Laws

Additionally, accurately testing marijuana products for **potency** ensures labels have adequate information regarding their strength, which helps industry experts determine dosage. Every product in licensed dispensaries features a compliance label with extensive product, manufacturing, dosing and testing information.

The **labeling** of products in licensed dispensaries means that products are subject to state certified, third-party analytical testing. This is critical in ensuring the safety for consumers. These labels contain important health, testing and dosing information. This requirement is absent in unlicensed, unregulated products and stores.

Potency

Potency testing, accompanied by proper product labeling, is needed to ensure that customers know exactly how much product they are consuming. Public health agencies have many checks and balances to ensure the safety of products sold in licensed facilities. One example is requiring only 10% or less a deviation between the approximate amount of THC and the final tested amount.

For example, if a package of gummies is marketed at 10 mg/piece, the gummy MUST test between 9mg-11mg (i.e.,± 10%). Δ8-THC products have NO such requirement. In fact, they do not have to be tested at all. It is a significant gamble for consumers' health and safety to consider the dosing information on Δ8-THC products accurate.

Microbial Screening

Microbial contamination with the risk of harmful infections is one of the biggest threats to cannabis consumers, particularly those with weakened immune systems (elderly, children, and patients with chronic diseases). All cultivated and manufactured products in licensed facilities must undergo microbial screening for these bacteria or molds (Pathogenic E. Coli, Salmonella, Pathogenic Aspergillus Species, including A. fumigatus, A. flatus, A. niger, and A. terreus). Unlicensed facilities do not require products to be tested.

Pesticides

Due to the plant's absorption ability from direct treatment, soils, and/or water, marijuana can be contaminated by pesticides.

Mycotoxins

Mycotoxins are highly toxic chemical byproducts from fungi commonly found in plants. Very small quantities can cause disease and/or death. Controlling mycotoxins is a critical requirement of Cannabis testing. All products undergo mycotoxin testing, which includes aflatoxins and ochratoxin A.

Heavy Metal

Heavy Metal analysis encompasses trace metal/heavy metal testing to evaluate cannabis products for elevated concentrations of elements of significant concern. These metals include Arsenic, Cadmium, Chromium, Lead, and Mercury. Excessive exposure to such elements can cause serious health concerns, including neurological damage.

Residual Solvent

Residual Solvents are volatile compounds used in the manufacturing of drug substances. The extraction process demands rigorous attention to ensure that residual solvents do not compromise these products, which could negatively impact consumers' health.

Residual solvent testing includes 1,2-dichloroethane, Acetone, Acetonitrile, Benzene, Butanes, Chloroform, Ethanol, Ethyl acetate, Ethyl ether, Ethylene Oxide, Heptane, Hexanes, Isopropyl alcohol, Methanol, Methylene chloride, Pentanes, Propane, toluene, Trichloroethylene, and total Xylenes.

So How Can I Know What's Safe?

It is challenging to know the "who's who" and "what's what" when it comes to cannabis products. When purchasing from an unlicensed, unregulated source, you never know for sure. With licensed, regulated dispensaries, you have the confidence that products are safety tested and labeled appropriately with the proper warnings, information and mandatories.

If you are not seeking out cannabis products that have been tested and feature an official certificate of analysis for that exact product with the name of the lab that performed it, you really just don't know what you might be consuming!