



Cannabinoid Testing and Product Safety



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Personal and Company Introduction

Cannabis Testing Process Overview

- Types of testing and complexity of a cannabis analytical laboratory
 - o Cannabinoids, terpenes, pesticides, mycotoxins, residual solvents, heavy metals, microbials, foreign material, moisture content, water activity
 - o Expertise in organic chemistry, inorganic chemistry, microbiology, material science, quality/regulatory, business
 - o Dedicated instruments and staff, trained and qualified on specific methods
 - o Requires specialized facility; power, ventilation/hoods, security, hazardous materials/gases
 - o ISO 17025 accreditation for quality management system and proficiency testing
- Types of products and jurisdiction over safety testing in Virginia
 - o Smokable flower, concentrates, vapes, edibles, drinks, tinctures, topicals, suppositories, nasal sprays
 - o Hemp cultivation and extracts for human oral consumption – VDACS
 - o Hemp products for inhalation, topical, other - ?
 - o All medical cannabis products – Board of Pharmacy

Current Trends and Concerns

- State-to-state and department-to-department differences in testing requirements
- Lab-to-lab variability and lab shopping
 - o Incomplete availability of standardized methods (work in progress by ASTM, AOAC, USP)
 - o Minimal oversight or double-checking of labs. State reference lab may be needed
- Concerns and examples from past test results
 - o Large potency vs package label discrepancies
 - o Microbials are difficult to control and easy to contaminate with. Mycotoxins are related.
 - o Solvents from processing are sometimes not fully removed
 - o Pesticides/fungicides – some are OMRI listed but not allowed on cannabis. Can contaminate product from dirty extraction equipment
 - o Metals not typically found, but concerns exist with vape products
 - o Minimal stability testing. Cannabinoids degrade over time and microbials increase
 - o No batch requirements
 - o No third-party sampling, other than for hemp cultivation
- Voluntary compliance and potency-only testing for hemp and hemp-derived products
- Optional use of QR codes or posting test results online. Consumers need access to the original Certificates of Analysis (CoAs)

National Cannabis Laboratory Council whitepaper on “Standardizing Cannabis Lab Testing Nationally”

<https://www.perkinscoie.com/en/news-insights/nclcouncil.html>