



Designation: D8493 – 23

Standard Guide for Sample Preparation of Cannabis and Hemp Inflorescence for Laboratory Analysis¹

This standard is issued under the fixed designation D8493; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 In this guide, the basic steps in obtaining a test portion sample of either dried cannabis/hemp inflorescence are outlined.

1.2 Sample preparation depends on many factors including moisture (dryness) of the sample, the analyte to be measured, the concentrations/amounts, and the test method's precision and accuracy requirements. In this case, dried cannabis or hemp plant material require particle size reduction-comminution from a representative sample of which the final analytical testing portion is determined by the employed testing method. Local regulatory guidelines often dictate both the representative sample that is taken from the bulk material (harvest batch) and the final mass of the test portion (for example <1 g) for chemical analyses.

1.3 This guide will not purport to meet every local and state jurisdiction since different regulatory requirements vary; the local/state requirements are at the discretion of the user to follow and interpret.

1.4 *Units*—The values stated in SI units are to be regarded as the standard. No other units of measurement are included in this standard.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D1193 Specification for Reagent Water

D8197 Specification for Maintaining Acceptable Water Activity (a_w) Range (0.55 to 0.65) for Dry Cannabis Flower Intended for Human/Animal Use

D8270 Terminology Relating to Cannabis

D8282 Practice for Laboratory Test Method Validation and Method Development

D8334/D8334M Practice for Sampling of Cannabis/Hemp Post-Harvest Batches for Laboratory Analyses

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

2.2 *Other Standards:*

ASTA Analytical Methods, Preparation of Samples, Method 1³

FDA Guide to Inspections Validation of Cleaning Processes⁴

3. Terminology

3.1 *Definitions:*

3.2 General definitions are in accordance with Terminology D8270 unless otherwise indicated.

3.3 *Definitions of Terms Specific to This Standard:*

3.3.1 *analytical sample, n*—prepared from the laboratory sample; the material from which the test portion is selected.

3.3.2 *ball mills, n*—ball mills pulverize by impact using hard balls inside an enclosed grinding jar, sample containers such as falcon tube (centrifuge tubes-high-clarity polypropylene), or a bowl with a secure lid.

3.3.2.1 *Discussion*—Types of ball mills include drum ball mills, jet mills, bead-mills, horizontal rotary ball mills, vibration ball mills, planetary ball mills. Feed material: soft, hard, brittle, fibrous (dry or wet); material feed size: <8 mm to 10 mm. Also referred to as an impact mill and rod, jar, or pebble

¹ This test method is under the jurisdiction of ASTM Committee D37 on Cannabis and is the direct responsibility of Subcommittee D37.03 on Laboratory. Current edition approved Jan. 15, 2023. Published February 2023. DOI: 10.1520/D8493-23.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from the American Spice Trade Association (ASTA), 1101 17th St. NW, Suite 700, Washington, DC 20036, www.astaspice.org.

⁴ Available from the U.S. Food & Drug Administration, www.FDA.gov.