



Designation: D5743 – 21

Standard Practice for Sampling Single or Multilayered Liquids, with or Without Solids, in Drums or Similar Containers¹

This standard is issued under the fixed designation D5743; 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 This practice covers typical equipment and methods for collecting samples of single or multilayered liquids, with or without solids, in drums or similar containers. These methods are adapted specifically for sampling drums having a volume of 110 gal (416 L) or less. These methods are applicable to hazardous material, product, or waste. Specific sample collection and handling requirements should be described in the site-specific work plan.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *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.* Specific precautionary statements are given in 7.2.4, 7.2.7.1, and Notes 1 and 2.

1.4 *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

D4687 Guide for General Planning of Waste Sampling

D5088 Practice for Decontamination of Field Equipment Used at Waste Sites

¹ This practice is under the jurisdiction of ASTM Committee D34 on Waste Management and is the direct responsibility of Subcommittee D34.01.02 on Sampling Techniques.

Current edition approved May 1, 2021. Published May 2021. Originally approved in 1995. Last previous edition approved in 2013 as D5743 – 97 (2013). DOI: 10.1520/D5743-21.

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.

D5283 Practice for Generation of Environmental Data Related to Waste Management Activities: Quality Assurance and Quality Control Planning and Implementation

D5495 Practice for Sampling with a Composite Liquid Waste Sampler (COLIWASA)

D5681 Terminology for Waste and Waste Management

2.2 Other Documents:

Drum Handling Practices at Hazardous Waste Sites EPA/600/S2-86/013, PB 165362, October 1986³

Accident Prevention Manual: Engineering and Technology 14th Edition, 2015⁴

Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities No. 85-115, October 1985⁵

3. Terminology

3.1 *Definitions*—For definitions of terms used in this standard, see Terminology D5681.

4. Summary of Practice

4.1 The drum and its contents are inspected, and appropriate sampling equipment is selected. A clean sampling device is lowered slowly into the liquid to be sampled. After the material has entered the device, it is removed from the drum. The contents of the device are discharged into a sample container. The sampling device is then either disposed of or cleaned and decontaminated.

5. Significance and Use

5.1 This practice is intended for use in collecting samples of single and multilayered liquids, with or without solids, from drums or similar containers, including those that are unstable, ruptured, or otherwise compromised. Special handling procedures (for example, remote drum opening, over-pressurized drum opening, drum deheading, etc.) are described in *Drum Handling Practices at Hazardous Waste Sites*.

³ Available (for free) at <http://www.epa.gov/nscep>.

⁴ Available from National Safety Council, 1121 Spring Lake Dr., Itasca, IL 60143 and at www.nsc.org.

⁵ Available from National Institute of Occupational Safety and Health (NIOSH) at 800-356-4674 (hardcopy) or <https://www.cdc.gov/niosh/docs/85-115/pdfs/85-115.pdf?id=10.26616/NIOSH-PUB85115> (download).