Designation: D7707 – 21

Standard Specification for Wipe Sampling Materials for Beryllium in Surface Dust[1]

This standard is issued under the fixed designation D7707; 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 specification covers requirements for premoistened wipe materials that are used to collect settled dusts on surfaces for the subsequent determination of beryllium.

1.2 For wipe materials used for the determination of lead in surface dust, refer to Specification E1792. This is mentioned to insure that users of wipes recognize that there is some relationship between wipes and the analyte of interest.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 This specification contains notes that are explanatory and are not part of the mandatory requirements of the specification.

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]

D1356 Terminology Relating to Sampling and Analysis of Atmospheres

D6966 Practice for Collection of Settled Dust Samples Using Wipe Sampling Methods for Subsequent Determination of Metals

D7035 Test Method for Determination of Metals and Metalloids in Airborne Particulate Matter by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)

D7202 Test Method for Determination of Beryllium in the Workplace by Extraction and Optical Fluorescence Detection

D7439 Test Method for Determination of Elements in Airborne Particulate Matter by Inductively Coupled Plasma–Mass Spectrometry

E105 Guide for Probability Sampling of Materials

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

E1792 Specification for Wipe Sampling Materials for Lead in Surface Dust

3. Terminology

3.1 For definitions of pertinent terms not listed here, see Terminology D1356.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *lot, n*—a finite quantity of a given product manufactured under production conditions that are considered uniform.

3.2.2 *standard beryllium test method, n*—as used in this specification, any of the following test methods: D7035, D7202, D7439, the graphite furnace atomic absorption technique in NIOSH Method 7102,[3] or a equivalent test method issued by a national or international consensus standard organization.

3.2.3 *wipe, n*—a disposable towellette that may or may not be premoistened with an acceptable wetting agent, depending on the intended application for obtaining beryllium samples.

3.2.3.1 *Discussion*—The towellette is used to collect a sample of settled dust on a surface for subsequent beryllium analysis.

4. Significance and Use

4.1 This specification is intended for use by manufacturers and suppliers to evaluate the performance of wipe sampling materials for beryllium in surface dust.

[1] This specification is under the jurisdiction of ASTM Committee D22 on Air Quality and is the direct responsibility of Subcommittee D22.04 on Workplace Air Quality.

Current edition approved Sept. 1, 2021. Published October 2021. Originally approved in 2011. Last previous edition approved in 2016 as D7707 – 11 (2016). DOI: 10.1520/D7707-21.

[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.

[3] National Institute for Occupational Safety and Health, *NIOSH Manual of Analytical Methods*, 4th ed., NIOSH, Cincinnati, OH, 1994, available from www.cdc.gov/niosh/nmam.