



Designation: D8568 – 24

## Standard Test Method for Determination of Lead by Graphite Furnace Atomic Absorption Spectrometry (GFAAS) Techniques<sup>1</sup>

This standard is issued under the fixed designation D8568; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This test method covers the determination of lead (Pb) in airborne particulate, dust by wipe and micro-vacuuming, paint, and soil collected in and around buildings and related structures using graphite furnace atomic absorption spectrometry (GFAAS).

1.2 This test method contains directions for sample analysis, as well as quality assurance (QA) and quality control (QC), and may be used for purposes of laboratory accreditation and certification.

1.3 No detailed operating instructions are provided because of differences among various makes and models of suitable GFAAS instruments. Instead, the analyst shall follow the instructions provided by the manufacturer of the particular instrument.

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

1.4.1 *Exception*—The SI and inch-pound units shown for wipe and micro-vacuuming sampling data are to be individually regarded as standard for wipe and micro-vacuuming sampling data.

1.5 This test method contains notes which are explanatory and not part of the mandatory requirements of this standard.

1.6 *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.*

1.7 *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:<sup>2</sup>

- D1193 Specification for Reagent Water
- D1356 Terminology Relating to Sampling and Analysis of Atmospheres
- D3919 Practice for Measuring Trace Elements in Water by Graphite Furnace Atomic Absorption Spectrophotometry
- D4210 Practice for Intralaboratory Quality Control Procedures and a Discussion on Reporting Low-Level Data (Withdrawn 2002)<sup>3</sup>
- D4532 Test Method for Respirable Dust in Workplace Atmospheres Using Cyclone Samplers
- D4697 Guide for Maintaining Test Methods in the User's Laboratory (Withdrawn 2009)<sup>3</sup>
- D4840 Guide for Sample Chain-of-Custody Procedures
- D6785 Test Method for Determination of Lead in Workplace Air Using Flame or Graphite Furnace Atomic Absorption Spectrometry
- 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)
- D7144 Practice for Collection of Surface Dust by Micro-vacuum Sampling for Subsequent Determination of Metals and Metalloids
- D8358 Guide for Assessment and Inclusion of Wall Deposits in the Analysis of Single-Stage Samplers for Airborne Particulate Matter
- E456 Terminology Relating to Quality and Statistics
- E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method
- E1188 Practice for Collection and Preservation of Information and Physical Items by a Technical Investigator

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee D22 on Air Quality and is the direct responsibility of Subcommittee D22.12 on Sampling and Analysis of Lead for Exposure and Risk Assessment.

Current edition approved April 1, 2024. Published April 2024. DOI: 10.1520/D8568-24.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).