



Designation: D8560 – 24

Standard Guide for Determination of Airborne PFAS in the Indoor Air Environment¹

This standard is issued under the fixed designation D8560; 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 guide describes methods for determining Per- and Polyfluoroalkyl Substances (PFAS) concentrations in indoor air.

1.2 This guide is focused on PFAS measurement technologies applicable to indoor air (including in vehicles and indoor workplaces) and other relevant air volumes such as, air in chambers, bags, or both. The described technologies were developed for indoor air; they may or may not be applicable to other types of air samples.

1.3 This guide describes available technologies and methods that can be used to measure indoor air PFAS concentrations in the gaseous or particulate phases, or both, in indoor air.

1.4 This guide describes each method and its advantages and limitations.

1.5 This guide does not attempt to differentiate between the effectiveness of the methods nor determine equivalence of the methods.

1.6 The sorbent-based sampling strategies addressed in this guide are for PFAS compounds with a molecular mass greater than 200 g mol^{-1} (**1, 2, 3**).² Compounds less than 200 g mol^{-1} , such as CF_4 , C_2F_6 , or PFAS degradation products may require real-time analytical methods described in this guide or other methods that are not presented here.

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

1.8 *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.*

1.9 *This international standard was developed in accordance with internationally recognized principles on standard-*

ization 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:³

D1356 Terminology Relating to Sampling and Analysis of Atmospheres

D6196 Practice for Choosing Sorbents, Sampling Parameters and Thermal Desorption Analytical Conditions for Monitoring Volatile Organic Chemicals in Air

D7968 Test Method for Determination of Polyfluorinated Compounds in Soil by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)

D7979 Test Method for Determination of Per- and Polyfluoroalkyl Substances in Water, Sludge, Influent, Effluent, and Wastewater by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)

D8141 Guide for Selecting Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs) Emission Testing Methods to Determine Emission Parameters for Modeling of Indoor Environments

D8421 Test Method for Determination of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Matrices by Cosolvation followed by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)

D8535 Test Method for Determination of Per- and Polyfluoroalkyl Substances (PFAS) in Soil/Biosolid Matrices by Solvent Extraction, Filtering, and Followed by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)

E3302 Guide for PFAS Analytical Methods Selection

2.2 EPA Standards:⁴

EPA Method 537.1 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by

¹ This guide is under the jurisdiction of ASTM Committee **D22** on Air Quality and is the direct responsibility of Subcommittee **D22.05** on Indoor Air.

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² The boldface numbers in parentheses refer to a list of references at the end of this standard.

³ 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.

⁴ Available from United States Environmental Protection Agency (EPA), William Jefferson Clinton Bldg., 1200 Pennsylvania Ave., NW, Washington, DC 20460, <http://www.epa.gov>.