



Designation: D4547 – 20

Standard Guide for Sampling Waste and Soils for Volatile Organic Compounds¹

This standard is issued under the fixed designation D4547; 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 recommended procedures for the collection, handling, and preparation of solid waste, soil, and sediment samples for subsequent determination of volatile organic compounds (VOCs). This class of compounds includes low molecular weight aromatics, hydrocarbons, halogenated hydrocarbons, ketones, acetates, nitriles, acrylates, ethers, and sulfides with boiling points below 200° Celsius (C) that are insoluble or slightly soluble in water.

1.2 Methods of sample collection, handling, storage, and preparation for analysis are described.

1.3 This guide does not cover the details of sampling design, laboratory preparation of containers, and the analysis of the samples.

1.4 It is recommended that this guide be used in conjunction with Guide [D4687](#).

1.5 This guide offers an organized collection of information or a series of options and does not recommend a specific course of action. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this guide may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a project's many unique aspects. The word “standard” in the title of this document means only that the document has been approved through the ASTM consensus process.

1.6 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard. Reporting of test results in units other than SI shall not be regarded as nonconformance with this standard.

1.7 *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 appro-*

priate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.

1.8 *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
- [D1586/D1586M](#) Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils
- [D3550/D3550M](#) Practice for Thick Wall, Ring-Lined, Split Barrel, Drive Sampling of Soils
- [D4687](#) Guide for General Planning of Waste Sampling
- [D4700](#) Guide for Soil Sampling from the Vadose Zone
- [D5058](#) Practices for Compatibility of Screening Analysis of Waste
- [D5681](#) Terminology for Waste and Waste Management
- [D5792](#) Practice for Generation of Environmental Data Related to Waste Management Activities: Development of Data Quality Objectives
- [D6051](#) Guide for Composite Sampling and Field Subsampling for Environmental Waste Management Activities
- [D6232](#) Guide for Selection of Sampling Equipment for Waste and Contaminated Media Data Collection Activities
- [D6282/D6282M](#) Guide for Direct Push Soil Sampling for Environmental Site Characterizations
- [D6418](#) Practice for Using the Disposable En Core Sampler for Sampling and Storing Soil for Volatile Organic Analysis (Withdrawn 2018)³
- [D6640](#) Practice for Collection and Handling of Soils Obtained in Core Barrel Samplers for Environmental Investigations
- [D8170](#) Guide for Using Disposable Handheld Soil Core Samplers for the Collection and Storage of Soil for

¹ This guide is under the jurisdiction of ASTM Committee [D34](#) on Waste Management and is the direct responsibility of Subcommittee [D34.01.02](#) on Sampling Techniques.

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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 The last approved version of this historical standard is referenced on www.astm.org.