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Standard Test Method for Sequential Batch Extraction of Waste with Acidic Extraction Fluid[1]

This standard is issued under the fixed designation D 5284; 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 test method provides a procedure for the sequential leaching of a waste containing at least 5 % dry solids in order to generate solutions to be used to determine the constituents leached under the specified testing conditions.

1.2 This test method calls for the shaking of a known weight of waste with acidic extraction fluid of a specified composition as well as the separation of the liquid phase for analysis. The pH of the extraction fluid is to reflect the pH of acidic precipitation in the geographic region in which the waste being tested is to be disposed. The procedure is conducted ten times in sequence on the same sample of waste, and it generates ten solutions.

1.3 This test method is intended to describe the procedure for performing sequential batch extractions only. It does not describe all types of sampling and analytical requirements that may be associated with its application.

1.4 The values stated in SI units are to be regarded as the standard.

1.5 *This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:* [2]

D 75 Practice for Sampling Aggregates

D 420 Guide to Site Characterization for Engineering, Design and Construction Purposes

D 653 Terminology Relating to Soil, Rock, and Contained Fluids

D 1129 Terminology Relating to Water

D 1193 Specification for Reagent Water

D 2234 Test Methods for Collection of a Gross Sample of Coal

D 2777 Practice for Determination of Precision and Bias of Methods of Committee D-19 on Water

D 3370 Practices for Sampling Water

D 4793 Test Method for Sequential Batch Extraction of Waste with Water

3. Terminology

3.1 *Definitions*—For definitions of terms used in this test method, see Terminology D 1129.

3.2 *Symbols:Symbols*—Variables listed in this test method are defined in the individual sections in which they are discussed. A list of the defined variables is also provided in Section 11.

4. Significance and Use

4.1 This test method is intended as a means for obtaining sequential extracts of a waste. The extracts may be used to estimate the release of certain constituents of the waste under the laboratory conditions described in this test method.

4.2 The pH of the extraction fluid used in this test method is to reflect the pH of acidic precipitation in the geographic region in which the waste being tested is to be disposed.

NOTE 1—Possible sources of information concerning the pH of precipitation in the geographic region of interest include state and federal environmental agencies, state universities, libraries, etc.

NOTE 2—For sequential batch extraction of waste using a nonacidic extraction fluid, see Test Method D 4793.

4.3 An intent of this test method is for the final pH of each of the extracts to reflect the interaction of the extractant with the buffering capacity of the waste.

4.4 This test method is not intended to provide extracts that are representative of the actual leachate produced from a waste in the field or to produce extracts to be used as the sole basis of engineering design.

4.5 This test method has not been demonstrated to simulate actual disposal site leaching conditions.

4.6 This test method produces extracts that are amenable to the determination of both major and minor (trace) constituents. When minor constituents are being determined, it is especially

[1] This test method is under the jurisdiction of ASTM Committee D34 on Waste Management and is the direct responsibility of Subcommittee D34.01.04 on Ancillary Topics.

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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.

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