Designation: D 4980 – 89 (Reapproved 2003)

Standard Test Methods for Screening of pH in Waste[1]

This standard is issued under the fixed designation D 4980; 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 These test methods are used to determine the pH of a hazardous waste liquid, sludge, semisolid and solid.

	Sections
Test Method A—pH Screening by pH Paper	9-14
Test Method B—pH Screening by Electrometric Measurement	15-22

1.2 Test Method A uses a wide-range pH paper for a rapid indication of pH to within about 1 pH unit.

1.3 Test Method B uses a pH meter to measure within about 0.1 pH unit.

1.4 These test methods are designed and intended as a preliminary test to complement the more sophisticated quantitative analytical techniques that may be used to determine pH. These test methods offer, to the user, the option and the ability to screen waste for potentially hazardous levels of acidity and alkalinity when the more sophisticated techniques are not available and the total waste composition is unknown.

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 and health practices and determine the applicability of regulatory limitations prior to use.* Specific hazard information is given in Section 6.

2. Referenced Documents

2.1 *ASTM Standards:*

D 1193 Specification for Reagent Water[2]

D 1293 Test Methods for pH of Water[2]

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *screening analysis*—a preliminary qualitative or semi quantitative test developed from classical qualitative and quantitative techniques that is designed to efficiently give the user specific information about a waste that will aid in determining waste identification, process compatibility and safety in handling.

4. Significance and Use

4.1 These test methods are intended for use by those in the waste management industries to characterize waste streams by pH. These methods will identify those waste materials that may dictate a specific waste management procedure due to high acidity or alkalinity.

5. Reagents

5.1 *Purity of Reagents*—Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society where such specifications are available.[3] Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy of the determination.

5.2 *Purity of Water*—Unless otherwise indicated, references to water shall be understood to mean reagent water as defined by Type III of ASTM Specification D 1193.

6. Hazards

6.1 Avoid inhalation and skin and eye contact of all hazardous materials.

6.2 All measurements shall be done in a laboratory fume hood.

7. Sampling

7.1 Collect a representative sample of the waste.

7.2 Samples should be analyzed as soon as possible after collection.

8. Report

8.1 The report shall include at a minimum:

8.1.1 Sample identification,

8.1.2 Date of test,

8.1.3 Reference to the procedure applied, that is, test method and if applicable, dilution ratio,

8.1.4 Analytical results, and

8.1.5 Identification of the analyst.

---

[1] These test methods are under the jurisdiction of ASTM Committee D34 on Waste Management and is the direct responsibility of Subcommittee D34.01.05 on Screening Methods.

Current edition approved March 10, 2003. Published June 2003. Originally approved in 1989. Last previous edition approved in 1989 as D 4980 – 89.

[2] *Annual Book of ASTM Standards*, Vol 11.01.

[3] *Reagent Chemicals, American Chemical Society Specifications*, Am. Chemical Soc., Washington, DC. For suggestions on the testing of reagents not listed by the American Chemical Society, see *Reagent Chemicals and Standards*, by Joseph Rosin, D. Van Nostrand Co., Inc., New York, NY, and the *United States Pharmacopeia.*