



Designation: D 5232 – 92 (Reapproved 1997)

## Standard Test Method for Determining the Stability and Miscibility of a Solid, Semi-Solid, or Liquid Waste Material<sup>1</sup>

This standard is issued under the fixed designation D 5232; 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 is designed to determine whether a waste material reacts when it is mixed with air, water, strong acid, strong base, an oil/solvent mixture, other waste mixtures, or solid media such as a geological formation or solidification agents.

1.2 The miscibility of the waste material with the above media can also be defined.

NOTE 1—The following ASTM standards provide supplemental information: Test Methods D 4978, D 4979, D 4980, D 4981, D 4982, D 5049, D 5057, and D 5058.

1.3 *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.* For specific hazard statements, see Section 7.

### 2. Referenced Documents

#### 2.1 ASTM Standards:

- D 1193 Specification for Reagent Water<sup>2</sup>
- D 4978 Test Methods for the Screening of Sulfides in Waste<sup>3</sup>
- D 4979 Test Method for Physical Description Screening Analysis in Waste<sup>3</sup>
- D 4980 Test Methods for the Screening of pH in Waste<sup>3</sup>
- D 4981 Test Method for the Screening of Oxidizers in Waste<sup>3</sup>
- D 4982 Test Methods for Flammability Potential Screening Analysis of Waste<sup>3</sup>
- D 5049 Test Method for the Screening of Cyanides in Waste<sup>3</sup>
- D 5057 Test Method for the Screening of Apparent Specific Gravity and Bulk Density of Waste<sup>3</sup>
- D 5058 Test Methods for Compatibility Screening Analysis of Waste<sup>3</sup>

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee D34 on Waste Management and is the direct responsibility of Subcommittee D34.01.06 on Analytical Methods.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 11.01.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 11.04.

### 3. Summary of Test Method

3.1 The stability and miscibility of a waste material are observed when the waste is mixed with various media.

### 4. Significance and Use

4.1 This test method will identify waste materials that are potentially unstable when they come in contact with other materials at a waste treatment or disposal site.

4.2 This test method will serve to determine the miscibility of waste materials with various media, including other wastes.

4.3 This test method may not be applicable to all wastes. The appropriateness of these tests depends upon the proposed management of the waste.

4.4 Since the initiation of some chemical reactions are slow to take place, the user may wish to establish reagent-to-waste contact times prior to observing the mixes for any reactions.

### 5. Apparatus and Materials

5.1 *Disposable Cups*, minimum 40-mL total volume. Select plastics or other materials compatible with the reagents involved.

5.2 *Stirring Rods, Spatulas, Disposal Droppers, Watch Glasses*, and so forth.

5.3 Other waste materials to be evaluated with the test sample.

5.4 *Solid Media*, to be evaluated with the test sample.

### 6. Reagents

6.1 *Purity of Water*— The deionized water used to prepare the aqueous test solutions should conform to the conductivity specifications of ASTM Type II water as found in Specification D 1193.

6.2 *Hydrochloric Acid (HCl) Test Solution*, carefully mix 100 g of reagent grade hydrochloric acid (~36 %) with 900 g of deionized water.

6.3 *Sodium Hydroxide (NaOH) Test Solution*, carefully mix 200 g of reagent grade sodium hydroxide solution (~50 %) with 800 g of deionized water.

6.4 *Oil/Solvent Test Mixture*, prepare a fifty percent (50 %)