



Designation: D 5058 – 90 (Reapproved 1996)

Standard Test Methods for Compatibility of Screening Analysis of Waste¹

This standard is issued under the fixed designation D 5058; 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 cover assessment of the compatibility/reactivity of waste. The individual test methods are as follows:

	Sections
Test Method A—Commingled Waste Compatibility	8-12
Test Method B—Polymerization Potential (Reaction with Triethylamine)	13-18
Test Method C—Water Compatibility	19-25

1.2 These test methods are applicable to waste liquids, sludges, semi-solids, and solids.

1.3 These test methods are designed and intended as a preliminary or supplementary test to complement the more sophisticated quantitative analytical techniques that should be used to determine waste composition and compatibilities. This standard offers the user the option and the ability to screen wastes for potentially hazardous reactions when the more sophisticated techniques are not available and the total waste composition is unknown and to screen compatibility when the composition is known.

NOTE 1—**Warning:** Delayed or slow reactions of wastes may go unnoticed.

1.4 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

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.* For specific hazard statements, see Sections 10, 15, and 23 and Notes 1 and 2.

2. Referenced Documents

2.1 ASTM Standards:

D 1193 Specification for Reagent Water²

E 1 Specification for ASTM Thermometers³

E 200 Practice for Preparation, Standardization, and Stor-

age of Standard Solutions for Chemical Analysis⁴

3. Terminology

3.1 Definition of Term Specific to This Standard:

3.1.1 *screening*—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. Summary of Test Methods

4.1 *Test Method A*—Representative samples of waste are added to each other. The generation of heat or violent reaction is noted. In addition, the production of mists, fumes, dusts, gases, layering, polymerization, precipitation, emulsification or increase in viscosity and other chemical or physical changes are noted.

4.2 *Test Method B*—Reactivity of wastes is determined by adding an aliquot of a sample to an equal volume of reagent and observing any characteristic reaction, such as temperature increase, gas evolution, gelling, or polymerization.

4.3 *Test Method C*—Water and the waste are mixed in an approximate 10 + 1 ratio to test for compatibility. A thermometer is used to measure heat generation when applicable. Qualitative solubility and relative apparent density are observed concurrently.

5. Purity of 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.⁵ 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 (see Practice E 200).

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

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

³ *Annual Book of ASTM Standards*, Vol 14.03.

⁴ *Annual Book of ASTM Standards*, Vol 15.05.

⁵ "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."