Designation: E 346 – 99 (Reapproved 2003)

Standard Test Methods for Analysis of Methanol[1]

This standard is issued under the fixed designation E 346; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 These test methods cover chemical and physical tests for measuring the quality of methanol and appear in the following order:

	Sections
Purity of Reagents	4
Safety Precautions	5
Sampling	6
Acidity	7 to 9
Carbonizables	10 to 18
Color	19 to 21
Distillation Range	22 to 24
Permanganate Time	25 to 27
Specific Gravity	28 to 30
Water	31 to 33
Water Miscibility	34 to 37
Ethanol	37 to 47
Acetone	48 to 55
Trimethylamine	56 to 65

1.2 *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 hazards statements are given in Sections 5 and 15 and in 16.1, 16.4, and 52.2.2.

2. Referenced Documents

2.1 *ASTM Standards:* [2]

D 891 Test Methods for Specific Gravity, Apparent, of Liquid Industrial Chemicals

D 1078 Test Method for Distillation Range of Volatile Organic Liquids

D 1193 Specification for Reagent Water

D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)

D 1363 Test Method for Permanganate Time of Acetone and Methanol

D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products

D 1722 Test Method for Water Miscibility of Water-Soluble Solvents

E 180 Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals

E 203 Test Method for Water Using Karl Fischer Reagent

E 300 Practice for Sampling Industrial Chemicals

E 1140 Practice for Testing Nitrogen/Phosphorus Thermionic Ionization Detectors for Use in Gas Chromatography

3. Significance and Use

3.1 These test methods are suitable for manufacturing control and for determining compliance with specification limits for the properties designated by the test methods. For those test methods that use the procedure given in other ASTM methods, those test methods should be consulted for additional information on the significance, use, and possible interferences.

4. Purity of Reagents

4.1 *Purity of Reagents*—Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall 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.

4.2 Unless otherwise indicated, references to water shall be understood to mean Type II or III reagent water conforming to Specification D 1193. It is essential that the reagent water be free of ammonia when used in the method for acetone.

[1] These test methods are under the jurisdiction of ASTM Committee E15 on Industrial and Specialty Chemicals and are the direct responsibility of Subcommittee E15.02 on Product Standards.

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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] *Reagent Chemicals, American Chemical Society Specifications*, American Chemical Society, Washington, DC. For suggestions on the testing of reagents not listed by the American Chemical Society, see *Analar Standards for Laboratory Chemicals*, BDH Ltd., Poole, Dorset, U.K., and the *United States Pharmacopeia and National Formulary*, U.S. Pharmacopeial Convention, Inc. (USPC), Rockville, MD.

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