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100 Barr Harbor Dr., West Conshohocken, PA 19428
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Standard Test Methods of Sampling and Testing Turpentine[1]

This standard is issued under the fixed designation D 233; 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 procedures for sampling and testing turpentine, as defined by the Naval Stores Act[2] and Terminology D 804.[3] These test methods are also used for the sampling and testing of pinenes, the major components of most turpentines.

1.2 These test methods primarily measure the physical rather than the chemical properties of turpentines and pinenes. As turpentines and pinenes are currently used chiefly as chemical raw materials for the production of resins and synthetic organic chemicals, chemical composition is also very important. Consequently, testing the chemical composition of turpentines and pinenes by gas chromatography has displaced these test methods to a large extent. (See for example Test Method D 3009.)

1.3 The values stated in inch-pound units are tobe regarded as the standard. The values given in parentheses are for information only.

1.4 *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.*

2. Referenced Documents

2.1 *ASTM Standards:*

D 86 Test Method for Distillation of Petroleum Products[3]

D 270 Method of Sampling Petroleum and Petroleum Products[4]

D 804 Terminology Relating to Naval Stores, Including Tall Oil and Related Products[5]

D 1193 Specification for Reagent Water[6]

D 3009 Test Method for Composition of Turpentine by Gas Chromatography[5]

E 1 Specification for ASTM Thermometers[7]

3. Significance and Use

3.1 The test procedures described in this standard were developed when the chief use for turpentine was as a solvent. Currently however, the chief use for turpentine (and pinenes) is as raw materials for the production of resins and synthetic organic chemicals. Thus the chemical composition of turpentines and pinenes is extremely important and tests, in addition to the ones described in these test methods, are required in order to fully characterize turpentines and pinenes. The most widely used technique for determining the chemical composition of turpentines (and pinenes) is gas chromatography (see Test Method D 3009).

4. Purity of Reagents

4.1 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.[8] 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 reagent water conforming to Specification D 1193.

SAMPLING

5. Sampling

5.1 The method of sampling specified in 5.2 or 5.3 shall be used, according to the special conditions that apply.

5.2 *From Loaded Tank Car or Other Large Vessel*—The composite sample taken shall be not less than ½ gal (1.9 L) and

[1] These test methods are under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, Materials, and Applications, and are the direct responsibility of Subcommittee D01.34 on Naval Stores.

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[2] Naval Stores Act of 1923 (42 Stat 1435.7 USC-91-99) as amended in 1950 and regulations promulgated thereunder by the United States Department of Agriculture.

[3] *Annual Book of ASTM Standards*, Vol 05.01.

[4] Discontinued, See *1983 Annual Book of ASTM Standards*, Vol 05.01.

[5] *Annual Book of ASTM Standards*, Vol 06.03.

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

[7] *Annual Book of ASTM Standards*, Vol 14.03.

[8] *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.