



Designation: D1240 – 24

Standard Test Methods for Rosin Acids Content of Pine Chemicals, Including Rosin, Tall Oil, and Related Products¹

This standard is issued under the fixed designation D1240; 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 the determination of rosin acids in tall oil, tall oil fatty acid, tall oil rosin, and other pine chemicals products.

1.2 These test methods may not be applicable to adducts or derivatives of rosin, fatty acid, or other pine chemicals products.

1.3 The values stated in SI units are to be 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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

D664 Test Method for Acid Number of Petroleum Products by Potentiometric Titration

D7795 Test Method for Acidity in Ethanol and Ethanol Blends by Titration

E70 Test Method for pH of Aqueous Solutions With the Glass Electrode

E177 Practice for Use of the Terms Precision and Bias in

¹ These test methods are under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and are the direct responsibility of Subcommittee D01.34 on Pine Chemicals and Hydrocarbon Resins.

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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.

ASTM Test Methods

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

3. Summary of Test Method

3.1 The rosin acids content is determined by one of two procedures; by selective esterification of fatty acids to form methyl esters followed by titration of the unreacted rosin acids, by selective esterification of fatty acids to form methyl esters followed by titration of the unreacted rosin acids.

4. Significance and Use

4.1 This is a revision of the method for measuring rosin acids content combines the three major ways of determining the rosin acids content of pine chemicals products into a single method.

4.1.1 For materials containing less than 15 % rosin, the modified Glidden procedure has gained acceptance. For materials containing more than 15 % rosin the modified Wolfe Method is preferred. The modified Wolfe and modified Glidden procedures differ only in their details. They have been combined here into a single procedure. This procedure can be run using either a potentiometer or an internal indicator to determine the end point of the titration. Use of a potentiometer is preferred and is the referee method. Use of an internal indicator is the principal alternative method. They will be referred to as the Potentiometric Method and the Internal Indicator Method.

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 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

³ *ACS Reagent Chemicals, Specifications and Procedures for Reagents and Standard-Grade Reference Materials*, 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.