



Designation: D1065 – 18 (Reapproved 2022)

Standard Test Method for Unsaponifiable Matter in Pine Chemicals, Including Rosin, Tall Oil, and Related Products¹

This standard is issued under the fixed designation D1065; 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 This test method covers the determination of the percentage of material in pine chemicals products as defined in Terminology [D804](#) including rosin, tall oil, and related products, other than insoluble dirt or similar visible foreign matter that does not yield a water-soluble soap when the sample is saponified with potassium hydroxide.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

NOTE 1—It has been reported that this method may not be applicable to gum rosin, especially any gum rosin containing volatile terpenes. Volatile terpenes are by definition unsaponifiable matter, and can be lost under the drying conditions described in [8.4](#). The method is applicable to tall oil rosin and wood rosin as these rosins do not contain volatile terpenes.

1.4 *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

[D509](#) Test Methods of Sampling and Grading Rosin

¹ This test method is under the jurisdiction of ASTM Committee [D01](#) on Paint and Related Coatings, Materials, and Applications and is 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.

[D803](#) Test Methods for Testing Tall Oil

[D804](#) Terminology Relating to Pine Chemicals, Including Tall Oil and Related Products

[E177](#) Practice for Use of the Terms Precision and Bias in ASTM Test Methods

[E691](#) Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

3. Significance and Use

3.1 This test method is designed to broaden the scope of the previous edition of the test method by the inclusion of tall oil and tall oil derived from products as test materials. Test Methods [D803](#) currently includes a method for the determination of unsaponifiable matter.

3.2 The amount of unsaponifiable matter in tall oil and other related products is important in characterizing such products as it indicates the level of nonacidic material, both free and combined, present in the test material. The unsaponifiable in naval stores products is primarily composed of higher molecular weight alcohols, sterols, and hydrocarbons.

4. Apparatus

4.1 *Erlenmeyer or Other Flat-Bottom Flask*, of 125 mL to 250 mL capacity, with standard-taper 24/40 joint.

4.2 *Erlenmeyer Flask*, of 250 mL to 300 mL capacity, with wide mouth.

4.3 *Separatory Funnels*, of 300 mL to 500 mL capacity, with glass or polytetrafluoroethylene (PTFE) stoppers.

4.4 *Graduated Cylinder*, one of 10 mL to 25 mL and one of 50 mL to 100 mL capacity.

4.5 *Beaker*, of up to 250 mL capacity.

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,