



Standard Test Method for Insoluble Matter in Rosin and Rosin Derivatives¹

This standard is issued under the fixed designation D269; 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 amount of insoluble matter in rosin and rosin derivatives as described in Terminology [D804](#).

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

1.3 *This standard does not purport to address all of the safety problems, 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:*²

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

[E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves](#)

3. Significance and Use

3.1 Rosin, particularly gum and wood rosin, occasionally contains small amounts of contamination such as sand, dirt or bark. Rosin derivatives occasionally contain traces of insoluble material as a result of the raw materials used in their production or they may be generated during the production process. In all instances the presence of such insoluble material should be minimal. This test method describes a rapid and reliable procedure for determining the amount of such insoluble matter. It is based on the knowledge that rosin and most of its derivatives are soluble in numerous organic solvents whereas most common contaminants are not. It is especially useful for internal quality control rather than sales specifications.

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.

Current edition approved Dec. 1, 2015. Published December 2015. Originally approved in 1927. Last previous edition approved in 2011 as D269 – 97 (2011). DOI: 10.1520/D0269-97R15.

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.

4. Apparatus

4.1 *Beaker*, 800 mL.

4.2 *Magnetic Stirring Hot Plate with Polytetrafluoroethylene (PTFE) Stirbar*, or hot plate with manual stirring rod.

4.3 *Precut Stainless Steel Circular Screen*, 325 mesh with 0.0014-in. wire diameter. (44- μ m openings) as described in Specification [E11](#).

4.4 *Two-Piece Filter Apparatus*, appropriate to hold the stainless steel screens without leaking.

4.5 *Analytical Balance*, capable of weighing 0.0001 g.

4.6 *Laboratory Tweezers*.

4.7 *Forced Draft Oven*.

5. Reagents

5.1 *Clean Toluene, Hexane, Mineral Spirits*, or other suitable solvent for the specific material to be checked in, as agreed upon between the customer and the supplier.

6. Procedure

6.1 Rinse the pre-cut screen thoroughly with the solvent to clean it before use.

6.1.1 Dry the clean screen at 105 to 110°C for 30 min, cool in a desiccator, and weigh.

6.1.2 Record the weight of the dry screen to the nearest 0.0001 g.

6.1.3 Place the screen in the filter apparatus and secure it to prevent leakage.

NOTE 1—Always use tweezers when handling the pre-cut screen.

6.2 Weigh 100 ± 0.1 g of freshly powdered material to be tested into an 800-mL beaker. Add 150 mL of solvent. Place a PTFE-coated magnetic stir bar into the beaker, and place the beaker on a hot plate. Heat and stir the material until it is completely dissolved. Do not boil the solvent.

6.3 Immediately pour the solution through the screen. Rinse the beaker and filter apparatus three times with additional hot solvent.

6.4 Disassemble the filter apparatus, remove the screen, and place it in a forced draft oven, contaminated side up. Dry the screen to constant weight at 105 to 110°C. (1 h is usually

sufficient), cool in a desiccator, and weigh. Record the weight of the dry contaminated screen to the nearest 0.0001 g.

7. Calculation

weight contaminated screen (1)

$$\text{Percent insolubles} = \frac{\text{— weight clean screen.}}{\text{weight of sample}} \times 100$$

8. Report

8.1 Report the percent insoluble matter to the nearest 0.01 %.

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org). Permission rights to photocopy the standard may also be secured from the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, Tel: (978) 646-2600; <http://www.copyright.com/>

9. Precision and Bias

9.1 It is not practical to measure the precision and bias of the procedure in this test method because this test method is primarily used for internal quality control purposes rather than for customer specification purposes.

10. Keywords

10.1 insoluble; rosin; rosin derivatives