



Designation: D 4903 – 99 (Reapproved 2004)

Standard Test Method for Total Solids and Water in Vegetable Tanning Material Extracts¹

This standard is issued under the fixed designation D 4903; 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 is intended for use in determining the total solids and water in extracts of vegetable tanning materials. The test method is applicable to solutions of liquid, solid, pasty, and powdered extracts and to extracts of raw or spent materials.

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.*

2. Referenced Documents

2.1 ASTM Standards:²

- D 4901 Practice for Preparation of Solution of Liquid Vegetable Tannin Extracts
- D 4902 Practice for Evaporation and Drying of Analytical Solutions
- D 4905 Practice for Preparation of Solution of Solid, Pasty and Powdered Vegetable Tannin Extracts
- D 6401 Test Method for Determining Non-Tannins and Tannin in Extracts of Vegetable Tanning Materials
- D 6402 Test Methods for Determining Soluble Solids and Insolubles in Extracts of Vegetable Tanning Materials
- D 6404 Practice for Sampling of Vegetable Materials Containing Tannin
- D 6405 Practice for Extraction of Tannins from Raw and Spent Materials

2.2 ALCA Methods:

- A20 Total Solids and Water³

¹ This test method is under the jurisdiction of ASTM Committee D31 on Leather and is the direct responsibility of Subcommittee D31.01 on Vegetable Leather. This test method has been adapted from and is a replacement for Method A20 of the Official Methods of the American Leather Chemists Association.

Current edition approved April 1, 2004. Published May 2004. Originally approved in 1989. Last previous edition approved in 1999 as D 4903-99.

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 Official Methods of the American Leather Chemists Association. Available from the American Leather Chemists Association, University of Cincinnati, P.O. Box 210014, Cincinnati, OH 45221.

3. Summary of Test Method

3.1 An aliquot of the prepared analytical solution is pipetted into an evaporating dish and evaporated to dryness in a forced air oven.

4. Significance and Use

4.1 The test method is useful in determining the total solids and water in analytical solutions.

5. Apparatus

5.1 *Tannin Dish*—Crystallizing dish, borosilicate glass, 50 mm tall, 70 mm outside diameter. The bottom corner shall be rounded to a radius of 6 mm, the bottom shall be flat and not cupped in the center, and the top edge shall be rounded and polished.

5.2 *Pipet*, 100-mL capacity, preferably with a wide orifice approximately 2.4 mm ($\frac{3}{32}$ in.) diameter and 15 to 25-s delivery time.

5.3 *Drying Oven*—A forced-air convection oven (or mechanical-convection draft oven) capable of maintaining a temperature of $100 \pm 2.0^\circ \text{C}$.

5.4 *Thermometer*—Accurate to $\pm 2.0^\circ \text{C}$, used to check and monitor the oven set point.

5.5 *Dessicator*—Any convenient form or size.

6. Test Specimen

6.1 The specimen shall consist of 100 mL of a solution prepared as described in Practices D 4901, D 4905, and D 6405.

7. Procedure

7.1 Thoroughly mix the solution, prepared as described in Practices D 4901, D 4905, and D 6405, by inverting and shaking 8 to 10 times, taking care to ensure that all insoluble matter is uniformly dispersed and none left adhering to the walls of the flask. Immediately, pour a 150-mL to 250-mL portion (approximately) into a bottle or other suitable container, stoppered or covered, and retain until the soluble solids and non-tannins are ready to be pipetted (see Practice D 6404). Where the analysis is being performed in a constant temperature room, however, the specimen may be pipetted from this portion at any convenient time. At the proper time, thoroughly