



Designation: D4903 – 99 (Reapproved 2009)

# Standard Test Method for Total Solids and Water in Vegetable Tanning Material Extracts<sup>1</sup>

This standard is issued under the fixed designation D4903; 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 ( $\epsilon$ ) 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:*<sup>2</sup>

D4901 Practice for Preparation of Solution of Liquid Vegetable Tannin Extracts

D4902 Test Method for Evaporation and Drying of Analytical Solutions

D4905 Practice for Preparation of Solution of Solid, Pasty and Powdered Vegetable Tannin Extracts

D6401 Test Method for Determining Non-Tannins and Tannin in Extracts of Vegetable Tanning Materials

D6402 Test Method for Determining Soluble Solids and Insolubles in Extracts of Vegetable Tanning Materials

D6404 Practice for Sampling Vegetable Materials Containing Tannin

D6405 Practice for Extraction of Tannins from Raw and Spent Materials

<sup>1</sup> 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.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

2.2 *ALCA Methods:*

A20 Total Solids and Water<sup>3</sup>

## 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 D4901, D4905, and D6405.

## 7. Procedure

7.1 Thoroughly mix the solution, prepared as described in Practices D4901, D4905, and D6405, by inverting and shaking

<sup>3</sup> 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.