Designation: D 4900 – 99 (Reapproved 2004)

Standard Test Method for Lignosulfonates (Sulfite Cellulose) in Tanning Extracts[1]

This standard is issued under the fixed designation D 4900; 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 detecting the presence of lignosulfonates (sulfite cellulose) in extracts of tanning 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 4905 Practice for Preparation of Solution of Solid, Pasty and Powdered Vegetable Tannin Extracts

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:*

A50 Lignosulfonates (Sulfite Cellulose)[3]

3. Summary of Test Method

3.1 The reaction with aniline, of a tanning material extract specimen is compared with that of a solution containing lignosulfonate and tanning material known to be free from lignosulfonate.

4. Significance and Use

4.1 The test method is useful to detect possible adulteration of tanning material extract with cheap and inferior lignosulfonates.

5. Specimen

5.1 The sample shall be drawn as described in Practice D 6404.

5.2 The specimen shall consist of 5 mL of a solution of analytical strength (4.0 g tannin per L), prepared as described in Practices D 4901, D 4905, and Practice D 6405.

6. Apparatus and Reagents

6.1 *Aniline*.

6.2 *Hydrochloric Acid*, concentrated.

6.3 *Comparison Solution*—This shall contain lignosulfonate (sulfite cellulose) in the proportion of 1 g total solids to 2000 mL of solution, and as much tanning material, similar to and of the same type as that being tested but known to be free from lignosulfonate, as will make up the solution to analytical strength.

7. Procedure

7.1 Place the specimen in a test tube. Add 0.5 mL of aniline, and shake well. Add 2 mL of concentrated hydrochloric acid, and again shake mixture well.

8. Results

8.1 If at least as much precipitate remains at the end of 15 min as is obtained when the comparison solution is similarly treated, the material shall be held to contain lignosulfonates (sulfite cellulose) and the fact shall be noted on the analysis report.

8.2 Attention is drawn to the fact that some synthetic tannins give precipitates under the conditions of this test method.

9. Precision and Bias

9.1 This test method is adopted from the procedures of the American Leather Chemists Association[3] where it has long been in use and where it was approved for publication before the inclusion of precision and bias statements were mandated. The original interlaboratory test data is no longer available. The user is cautioned to verify by the use of reference materials, if available, that the precision and bias of this test method is adequate for the contemplated use.

[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 A50 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 4900–99.

[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 45221–0014.