Designation: D 6403 – 99 (Reapproved 2004)

Standard Test Method for Determining Moisture in Raw and Spent Materials[1]

This standard is issued under the fixed designation D 6403; 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 moisture content in raw and spent materials that are extracted for tannin analysis. The moisture content of the sample is operationally defined to be equal to the weight loss experienced as a result of the evaporation which occurs in the drying oven.

1.2 The values stated in SI units are to be regarded as the 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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:* [2]

D 6405 Practice for Extraction of Tannins from Raw and Spent Materials

2.2 *ALCA Methods*

A6 Moisture in Raw and Spent Materials[3]

3. Terminology

3.1 *Definitions:*

3.1.1 *raw material*—any of the various parts of plants that are used as a source of vegetable tannins.

3.1.2 *spent material*—plant tissue by-products from industrial processes which may contain significant quantities of vegetable tannins.

3.1.3 *tannin*—an astringent substance found in the various parts of plants such as bark, wood, leaves, nuts, fruits, roots, etc.

3.1.4 *vegetable tannins*—mixtures of substances (natural products) obtained from plant tissues by water extraction which have the chemical and physical properties necessary to convert animal hides and skins into leather.

4. Summary of Test Method

4.1 A specimen of the material sample prepared for use in Practice D 6405 is dried overnight in a forced-air oven. The loss in weight represents the moisture in the specimen.

5. Significance and Use

5.1 This test method is used to determine the moisture content of materials (raw or spent) that are to be extracted for tannin analysis. The value obtained for moisture content by this test method is used to calculate the results of the other analyses on this material to a moisture-free basis.

5.2 The specimens are obtained from the material prepared for extraction in Practice D 6405.

5.3 Tanning materials contain moisture in varying amounts, depending both on the nature of the material and on the climatic conditions, therefore sampling must be carried out as quickly as is consistent with thoroughness in order to avoid changes in moisture content.

5.4 Negative errors may occur in the moisture determination because under the conditions of this method there may be retention of moisture by certain components (for example, hydrated salts or water bound to organic structures) of the raw or spent material or because of oxidation of other components (for example, tannins) of the raw or spent material.

5.5 Positive errors may occur in the moisture determination because under the conditions of this test method there may be volatilization of certain components of the raw or spent material other than water.

5.6 It is known that other factors can also affect the quantity of volatile matter (moisture) released by the specimen. These factors include but are not limited to: particle size of the test

[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 A6 of the Official Methods of the American Leather Chemists Association.

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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.

[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.