Designation: D 5556 – 95 (Reapproved 2001)

Standard Test Method for Determination of the Moisture and Other Volatile Matter Contained in Fats and Oils Used in Fat Liquors and Softening Compounds[1]

This standard is issued under the fixed designation D 5556; 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 moisture and other volatile material under conditions of the test. It is applicable to all fats and oils, including emulsions.

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. Significance and Use

2.1 This test method is intended for use in the determination of the moisture and other volatile matter contained in fats and oils used in the softening and stuffing of leather, as well as those used in the manufacture of products for such purpose.

3. Apparatus

3.1 *Electric Hot Plate*, surface should have a high polish, otherwise cover with an asbestos pad to prevent wear on the moisture dish.

3.2 *Glass Beakers*, 100 to 150 mL,

3.3 *Desiccator*, containing an efficient desiccant.

4. Procedure

4.1 Accurately weigh 5 to 20 g of a well mixed sample into a tared beaker that has been previously dried and cooled in a desiccator. Then heat the sample on the hot plate, rotating the beaker gently, by hand, to avoid spattering that may result from too rapid ebullition of moisture.

4.2 Judge the approach of the end-point by the cessation of the rising bubbles of steam as well as by the absence of foam. Another good method of judging the end-point is to place a clean, dry watch glass on top of the beaker. The evolution of steam is indicated by condensation on the watch glass. The temperature of the sample shall at no time be allowed to exceed 130°C, except at the end of test.

4.3 When the apparent end-point has been reached, heat the sample momentarily to the point of incipient smoking, using caution not to overheat, and then cool to room temperature in a desiccator and weigh.

5. Calculation and Report

5.1 Report the moisture and volatile matter in percent, by weight, employing the calculation:

$$\%\text{moisture and volatile matter} = \frac{\text{loss in weight} \times 100}{\text{weight of sample}} \quad (1)$$

5.2 Reference this test method in the test report.

6. Precision and Bias

6.1 This test method is adopted from the procedure of the American Leather Chemists Association where it has long been in use and was approved for publication before the inclusion of precision and bias statements was mandated. The original interlaboratory test data are no longer available. The user is cautioned to verify by the use of reference materials, if available, that the precision and bias (or reproducibility) of this test method is adequate for the contemplated use.

7. Keywords

7.1 fat liquors; fats and oils; leather; moisture and volatile content

[1] This test method is under the jurisdiction of ASTM Committee D31 on Leather and is the direct responsibility of Subcommittee D31.08 on Fats and Oils. This test method was developed in cooperation with the American Leather Chemists Assn. (Method H 20–1957).

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