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Standard Test Method for Hexane Extraction of Leather[1]

This standard is issued under the fixed designation D3495; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This test method covers the quantitative extraction of all types of leather with hexane. This test method does not apply to wet blue.

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1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this 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]

D2813 Practice for Sampling Leather for Physical and Chemical Tests

D3790 Test Method for Volatile Matter (Moisture) of Leather by Oven Drying

3. Significance and Use

3.1 This test method measures the amount of hexane-soluble lubricant present in all types of leather. Adequate lubrication prevents abrasion of leather fibers during flexing. This lubrication is generally obtained from the fat liquor added at the tannery. Some lubrication is also obtained from natural grease produced during the life of the animal.

4. Apparatus

4.1 *Analytical Balance*.

4.2 *Soxhlet Apparatus*, consisting of a boiling flask, extraction tube, and condenser.

4.3 *Forced Circulating Air Oven*, capable of maintaining the specified temperature.

4.4 *Electric Hot Plate*.

4.5 *Extraction Thimbles, fat-free*, cellulose, Alundum, or fritted.

4.6 *Absorbent Cotton*, fat-free.

4.7 *Steam Bath*.

5. Reagent

5.1 *Hexane*, ACS Reagent Grade conforming to the following requirements:

5.1.1 *Color (APHA)*—10 max.

5.1.2 *Density (g/mL) at 25°C*—0.687 max.

5.1.3 *Boiling Range*—1 to 95 mL, not more than 4.0°C.

5.1.4 *Residue After Evaporation*—0.001 % max.

5.1.5 *Acidity (as CH_3COOH)* —To pass test (limit 0.002 %).

5.1.6 *Sulfur Compounds (as S)*—0.005 % max.

5.1.7 *Thiophene*—To pass test.

NOTE 1—This reagent grade hexane is generally a mixture of several isomers of hexane (C_6H_{14}), predominantly *n*-hexane and methylcyclopentane (C_6H_{12}).

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[1] This test method is under the jurisdiction of ASTM Committee D31 on Leather and is the direct responsibility of Subcommittee D31.06 on Chemical Analysis.

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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.