
Leather — Determination of matter extractable by petroleum ether



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The Executive Director
Uganda National Bureau of Standards
P.O. Box 6329
Kampala
Uganda
Tel: +256 417 333 250/1/2
Fax: +256 414 286 123
E-mail: info@unbs.go.ug
Web: www.unbs.go.ug

Foreword

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- (a) a member of International Organisation for Standardisation (ISO) and
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Draft Uganda Standards adopted by the Technical Committee are widely circulated to stakeholders and the general public for comments. The committee reviews the comments before recommending the draft standards for approval and declaration as Uganda Standards by the National Standards Council.

The committee responsible for this document is Technical Committee UNBS/TC 7, *Textiles, Leather, Paper and related products*, Subcommittee SC 2, *Leather and related products*.

This second edition cancels and replaces the first edition (US 659:2006), which has been technically revised:

The title was modified to “Leather — Determination of Matter extractable by petroleum ether”

The scope was modified to “this draft Uganda Standard specifies a method for the determination of matter extractable from leather using petroleum ether”

Normative references: US ISO 2419 replaced US 655 and US 656

Leather — Determination of Matter extractable by petroleum ether

1 Scope

This draft Uganda Standard specifies a method for the determination of matter extractable from leather using petroleum ether.

2 Normative references

The following referenced documents referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

US ISO 2419, *Leather — Physical and mechanical tests — Sample preparation and conditioning*

4 Terms and definitions

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <http://www.iso.org/obp>

No terms and definitions are listed in this document.

4 Principle

Soluble matter is continuously extracted with petroleum ether from a prepared leather sample taken in accordance with US ISO 2419. After reduction of the solvent, the extract is dried at $95\text{ °C} \pm 5\text{ °C}$ and weighed.

5 Reagents

For this analysis, use only reagents of recognized analytical grade.

5.1 Petroleum ether, boiling range 60 °C to 80 °C

Warning - Petroleum ether is highly flammable, has toxic properties and should be used with caution.

5.2 Acetone

6 Apparatus

6.1 Soxhlet extraction apparatus including an extraction flask of suitable capacity, a suitable heating mantle and a condenser

- 6.2 **Filter paper** (Whatman No. 11, medium fast)
- 6.3 **Drying oven** capable of being maintained at $95\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$
- 6.4 **Steam bath** capable of boiling water
- 6.5 **Desiccator** large enough to take the extraction flask (see 6.1)

7 Procedure

- 7.1 Prepare the leather samples as specified in US ISO 2419
- 7.2 Clean the extraction flask (see 6.1) and dry it by heating at $95\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ for at least 30 min (see 6.3). Place three clean, dry glass beads in the flask, to prevent bumping during boiling. Allow to cool in the desiccator and determine the mass of the flask with the beads to within $\pm 0.001\text{ g}$.
- 7.3 Weigh $10\text{ g} \pm 1\text{ g}$ of the final sample and record the mass to the nearest 0.001 g . Place the sample (in a folded filter paper cup) in the extraction apparatus and close.
- 7.4 Begin the continuous extraction with the petroleum ether. Once the extraction is complete, reduce the solvent from the residue on a steam bath.

NOTE Boiling (at a rate that causes siphoning every 10 min) for a period of 5 h will usually extract at the extractable matter, but in doubtful cases a further extraction of the specimen should be carried out, using a clean flask and fresh petroleum ether.

Add $\pm 5\text{ mL}$ of acetone to the residue and swirl the flask to facilitate mixing. Place the flask on the steam bath until it is solvent free. Dry the residue in the flask for at least 3 h in the drying oven maintained at $95\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$. Allow the flask and residue to cool in the desiccator. Determine and record, to the nearest $\pm 0.001\text{ g}$, the mass of both flask and residue.

7 Results

Calculate the extractable matter content (X) as follows:

$$x = \frac{b}{a} \times 100$$

where

- a is the mass, in grams, of the test sample;
- b is the mass, in grams, of the residue in the flask; and
- x is the extractable matter content, as percentage.

NOTE To express the result on a 14 % leather moisture basis, multiply this value for the extractable matter by the factor $\frac{86}{100 - c}$, where c is the actual percentage moisture content, determined as in US 657.

Bibliography

US 659:2006, *Leather — Matter extractable by petroleum ether*

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