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**Leather — Chemical tests —  
Preparation of chemical test samples**

*Cuir — Essais chimiques - Préparation des échantillons pour essais  
chimiques*



Reference numbers  
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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html)

ISO 4044 was prepared by the Chemical Test Commission of the International Union of Leather Technologists and Chemists Societies (IUC Commission, IULTCS) in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 289, *Leather*, the secretariat of which is held by UNI, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

It is based on IUC 3 originally published in *J. Soc. Leather Trades Chemists*, **49**, pp. 8-10, 1965, and declared an official method of the IULTCS in 1965.

IULTCS, originally formed in 1897, is a world-wide organization of professional leather societies to further the advancement of leather science and technology. IULTCS has three Commissions, which are responsible for establishing international methods for the sampling and testing of leather. ISO recognizes IULTCS as an international standardizing body for the preparation of test methods for leather.

This third edition cancels and replaces the second edition (ISO 4044:2008), which has been technically revised.

Experience has shown it can be difficult to find a suitable grinding (or cutter) mills for preparing ground leather samples without considerable heating of the milling chamber or blocking of the sieve. Those mills commercially available require reasonably large leather samples to prepare a representative ground sample. But in many cases where consumer items are being tested, only small pieces of leather are available for testing. For this reason, Subclause 6.3 has been added to allow preparation of test samples by cutting the leather into small pieces with a sharp blade. An informative [Annex A](#) has been added to give help with locating a suitable grinding mill.

# Leather — Chemical tests — Preparation of chemical test samples

## 1 Scope

This document specifies how to prepare a test sample of leather for chemical analysis. The test sample can be either ground or cut into small pieces. Unless specified in this document, the method to be used depends on the size of leather sample available for testing.

## 2 Normative references

The following documents are 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.

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

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15987 apply.

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>
- IEC Electropedia: available at <http://www.electropedia.org/>

## 4 Principle

The leather sample shall be prepared by either:

- grinding in a mill to form “ground leather”, see [5.1](#) and [6.2](#), or
- cutting into small pieces, see [5.2](#) and [6.3](#).

Which sample preparation shall be used depends on the size of the leather sample available or what preparation method is defined in the test method procedure.

## 5 Apparatus

**5.1 Grinding mill**, having a blade rotational frequency of 300 r/min to 1 000 r/min and a perforated sieving plate with  $(4,0 \pm 0,5)$  mm diameter perforations. The mill blades shall be sharp. To avoid samples heating up during grinding the preferred blade rotation should be towards the lower end of the rotational frequency range. Temperature shall not be higher than 40° C. Information about a suitable grinding mill is given in [Annex A](#).

**5.2 Suitable tool** with a sharp blade for cutting leather samples into small pieces of 3 mm to 5 mm side length.