

Leather - Chemical tests - Determination of pH and difference figure (ISO 4045:2018)

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EUROPEAN STANDARD

**EN ISO 4045**

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English Version

## Leather - Chemical tests - Determination of pH and difference figure (ISO 4045:2018)

Cuir - Essais chimiques - Détermination du pH et de l'indice de différence (ISO 4045:2018)

Leder - Chemische Prüfungen - Bestimmung des pH und der Differenzzahl (ISO 4045:2018)

This European Standard was approved by CEN on 5 May 2018.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

## European foreword

This document (EN ISO 4045:2018) has been prepared by Technical Committee IULTCS "International Union of Leather Technologists and Chemists Societies" in collaboration with Technical Committee CEN/TC 289 "Leather" the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2018, and conflicting national standards shall be withdrawn at the latest by December 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 4045:2008.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 4045:2018 has been approved by CEN as EN ISO 4045:2018 without any modification.

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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)).

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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 voluntary nature of standards, 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)

This document was prepared by the Chemical Tests 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 11 published in *J. Soc. Leather Tech. Chem.*, **49**, pp. 25–29, 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 4045:2008), which has been technically revised as follows:

- change in title to include “and difference figure”;
- [5.1](#) and [6.1](#) have been revised;
- [Clause 7](#) has been revised: two samples are only prepared when there is enough leather;
- [8.1](#) has been revised to more clearly explain the procedure;
- [8.2](#) has been added (previously part of the next clause);
- [8.3](#) and [8.4](#) (previously [8.2](#) and [8.3](#)) have been revised and the previous title of [8.4](#) deleted;
- [Clause 9](#) b) and d) have been revised.

# Leather — Chemical tests — Determination of pH and difference figure

## 1 Scope

This document specifies a method for determining the pH value and the difference figure of an aqueous leather extract. It is applicable to all types of leather.

## 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 2418, *Leather — Chemical, physical and mechanical and fastness tests — Sampling location*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 4044, *Leather — Chemical tests — Preparation of chemical test samples*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### **difference figure**

difference between the pH value of a solution and that of its tenfold dilution

Note 1 to entry: The difference figure is a measure of the strength of acids and bases and can never exceed a value of 1. The difference figure amounts to 0,70 to 1,00 when a solution contains a free strong acid (or a free strong base). The ionization of weak acids and bases increases with greater dilution, and therefore the difference figure can only act as a criterion for the presence of free strong acid or base in aqueous extracts with pH values below 4 or above 10.

## 4 Principle

Preparation of an aqueous extract from a test portion of the leather and measurement of the pH of the extract, using a pH meter. In cases where the pH value obtained is below 4,00 or above 10,00, the pH value of a tenfold dilution of the aqueous extract is also determined.

## 5 Reagents

**5.1 Water**, minimum grade 3 in accordance with ISO 3696.