
INTERNATIONAL STANDARD



4045

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Leather — Determination of pH

Cuir — Détermination du pH

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 4045 was developed by Technical Committee ISO/TC 120, *Leather*, and was circulated to the member bodies in May 1976.

It has been approved by the member bodies of the following countries :

Australia	Hungary	Netherlands
Brazil	India	New Zealand
Canada	Iran	Poland
Chile	Ireland	Portugal
Czechoslovakia	Israel	South Africa, Rep. of
France	Korea, Rep. of	Spain
Germany	Mexico	Turkey

The member body of the following country expressed disapproval of the document on technical grounds :

U.S.S.R.

Leather — Determination of pH

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for determining the pH and the difference figure of an aqueous leather extract.

2 REFERENCES

ISO 4044, *Leather — Preparation of chemical test samples*.

ISO . . ., *Leather — Methods of sampling for chemical analysis*.¹⁾

3 DEFINITION

For the purpose of this International Standard the following definition applies :

difference figure : The difference between the pH value of a solution and that of its ten-fold dilution.

It is a measure of the strength of acids and bases and can never exceed the value 1. The difference figure amounts to 0,7 to 1,0 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 over 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.

5 REAGENTS

5.1 Water having a pH value between 6 and 7 and a conductivity not greater than 2×10^{-6} S/cm at 20 °C.

The water shall be kept in a freshly boiled-out container of resistant glass of low alkali content.

5.2 Buffer solution, for calibrating the electrode system.

It is preferable to purchase a standard buffer solution for measurement. If purchased in concentrated form, the control buffer must be freshly prepared each time. The length of time for which buffer solutions will keep depends on their composition and the method of use. Control of the accuracy of the buffer solution is therefore indispensable.

Used buffer solution shall be discarded.

6 APPARATUS

6.1 Suitable shaker, adjusted to a frequency of 50 ± 10 min⁻¹.

6.2 pH meter with glass electrode, with a measuring range from 0 to 14 pH units, graduated in 0,05 pH unit. The electrode system shall be calibrated at intervals against the buffer solution (5.2).

NOTE — Aqueous extracts of heavily fat-liquored leather may in time make the electrode membrane dirty. In such cases the membrane should be lightly rubbed with a piece of cotton wool dipped in acetone or the electrode should be suspended in a 1 : 1 water-acetone mixture. After cleaning, the membrane should again be thoroughly soaked in water.

6.3 Balance, accurate to 0,05 g.

6.4 Glassware, as follows :

6.4.1 Wide-mouthed flask with leak-proof stopper, capacity 100 ml.

6.4.2 Measuring cylinder, capacity 100 ml, graduated in 1 ml divisions.

6.4.3 Volumetric flask, capacity 100 ml.

1) In preparation.