

**SLOVENSKI STANDARD**  
**oSIST prEN ISO 3071:2019**  
**01-januar-2019**

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**Tekstilije - Ugotavljanje pH vodnega ekstrakta (ISO/DIS 3071:2018)**

Textiles - Determination of pH of aqueous extract (ISO/DIS 3071:2018)

Textilien - Bestimmung des pH des wässrigen Extraktes (ISO/DIS 3071:2018)

Textiles - Détermination du pH de l'extrait aqueux (ISO/DIS 3071:2018)

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**ICS:**

59.080.01	Tekstilije na splošno	Textiles in general
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# DRAFT INTERNATIONAL STANDARD

## ISO/DIS 3071

ISO/TC 38

Secretariat: SAC

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## Textiles — Determination of pH of aqueous extract

*Textiles — Détermination du pH de l'extrait aqueux*

ICS: 59.080.01

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## ISO/DIS 3071:2018(E)

## 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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For an explanation of 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 38, Textiles.

This fourth edition cancels and replaces the third edition (ISO 3071:2005), which has been technically revised. <https://standards.iteh.ai/catalog/standards/sist/cab90b65-a5f5-48b4-ac20-af6441c091f6/sist-en-iso-3071-2020>

The main change compared to the previous edition is as follows:

- Extraction with water was deleted

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

The pH-value of the aqueous extract of a textile affords a useful index to its processing history. In addition, it is becoming more common to demand that the textile, in its various forms, conforms to certain limits in respect of its acidity or alkalinity, often expressed in terms of the pH-value of the aqueous extract.

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# Textiles — Determination of pH of aqueous extract

## 1 Scope

This International Standard specifies a method for determining the pH of the aqueous extract of textiles. The method is applicable to textiles in any form.

## 2 Normative references

The following referenced documents are indispensable for the application 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 3696:1987, *Water for analytical laboratory use — Specification and test methods*

## 3 Terms and definitions

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

### 3.1

#### pH

co-logarithm of the hydrogen ion concentration in an aqueous extract

## 4 Principle

The pH-value of an aqueous extract of a textile is measured electrometrically at room temperature by means of a glass electrode.

## 5 Reagents

All reagents used shall be of recognized analytical grade.

**5.1 Distilled or deionized water**, of at least grade 3 as defined in ISO 3696, having a pH between 5,0 and 7,5.

The pH shall be verified the first time the water is used. If it is not within the specified range, the water shall be redistilled using chemically resistant glassware. Acid or organic matter can be removed by distilling water from a solution of 1 g/l potassium permanganate and 4 g/l sodium hydroxide. Alkalinity (e.g. the presence of ammonia) can be removed by distilling the water from a solution of dilute sulfuric acid. If the distilled water is not grade 3, boil 100 ml of distilled water in a beaker at a moderate rate for  $(10 \pm 1)$  min and allow the covered beaker to cool to room temperature.

**5.2 Potassium chloride solution**, 0,1 mol/l, prepared using distilled or deionized water ([5.1](#)).

**5.3 Buffer solutions**, which may be prepared as specified in [Annex A](#), having a pH similar to that being determined, for calibration of the pH-meter before measurement. Buffer solutions having a pH around 4, 7 or 9 are recommended.

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## 6 Apparatus

**6.1 Stoppered glass or polypropylene flasks**, chemically resistant, for preparation of the aqueous extract.

NOTE It is recommended that the glassware used for this test be set aside for this purpose only and filled with distilled water between tests.

**6.2 Mechanical shaker**, providing rotational or reciprocating movement sufficient to obtain a ready exchange of liquid between the interior of the textile material and the solution used in preparing the extract. A to-and-fro movement at a rate of  $60 \text{ min}^{-1}$  or a rotational frequency of  $30 \text{ min}^{-1}$  has been found satisfactory.

**6.3 Beakers**, chemically resistant, with a capacity of 150 ml (see Note to [6.1](#)).

**6.4 Rods**, chemically resistant (see Note to [6.1](#)).

**6.5 pH-meter**, with a glass electrode, capable of measuring to at least 0,1 pH-units.

**6.6 Balance**, accurate to 0,01 g.

**6.7 1 l volumetric flasks**, of grade A quality.

## 7 Preparation of test samples

**7.1** Take a laboratory sample representative of the bulk of the textile material and sufficient to provide all the test samples required. Cut the laboratory sample into pieces having approximately 5 mm sides or of such a size as to allow the test samples to wet out rapidly.

**7.2** To avoid contamination, handle the material as little as possible. Take from the laboratory sample three test samples of  $(2,00 \pm 0,05) \text{ g}$  each.

## 8 Procedure

### 8.1 Preparation of the aqueous extract

Prepare the extract in triplicate at room temperature, as follows:

Place each test sample and 100 ml of extracting solution [potassium chloride solution ([5.2](#))] into a stoppered flask ([6.1](#)). Agitate the flask for a short period by hand to ensure that the textile material is properly wetted out, then shake it mechanically for  $2 \text{ h} \pm 5 \text{ min}$ .

Record the temperature of the extracting solution used.

### 8.2 Measurement of the pH of the aqueous extract

Calibrate the pH-meter at the temperature of the extract to be measured. Check the calibration of the pH-meter using two buffer solutions.

Immerse the electrode several times in the KCl solution used to prepare the extract until the indicated pH-value stabilizes.

Decant the first extract into a beaker, immediately immerse the electrode to a depth of at least 10 mm and stir gently with a rod until the pH-value stabilizes (do not record the pH-value of this solution).