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**Determination of pH value —  
Technical buffer solutions for the  
calibration of technical measuring  
installations**

*Détermination de la valeur pH — Solutions tampons techniques pour  
l'étalonnage des installations techniques de mesure du pH*



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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 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 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

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).

# Determination of pH value — Technical buffer solutions for the calibration of technical measuring installations

## 1 Scope

This document specifies requirements for technical buffer solutions. These buffer solutions are preferably used for the calibration and adjustment of technical pH measuring equipment as well as pH measuring installations in laboratories. Measuring methods are given to determine pH values and buffer capacities of such buffer solutions based on pH reference buffer solutions in accordance with ISO 23496.

NOTE [Annex A](#) gives examples of technical buffer solutions.

## 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 23496, *Determination of pH value — Part 3: Reference buffer solutions for the calibration of pH measuring equipment*

ISO 80000-9, *Quantities and units — Part 9: Physical chemistry and molecular physics*

DIN 19268:2007, *pH measurement — pH measurement of aqueous solutions with pH measuring chains with pH glass electrodes and evaluation of measurement uncertainty*<sup>1)</sup>

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 80000-9 and the following 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 pH

measure for the acidic or basic character of an aqueous solution

Note 1 to entry: Notation of pH: the "p" and the "H" are upright on one line.

Note 2 to entry: The acidic character is determined by the activity of the existing "hydrogen ions".

[SOURCE: ISO 23496:2019, 3.1]

1) A measuring chain in the sense of this standard is generally represented by a combined electrode.