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Fertilizers — Extraction of water  
soluble phosphorus

*Engrais — Extraction du phosphore soluble dans l'eau*





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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 the European Committee for Standardization (CEN) (as EN 15958:2011) and was adopted without modification by Technical Committee ISO/TC 134, *Fertilizers, soil conditioners and beneficial substances*.

This first edition of ISO 15958 cancels and replaces ISO 5316:1977, which has been technically revised.

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).



# Fertilizers — Extraction of water soluble phosphorus

## 1 Scope

This document specifies a method for the extraction of water soluble phosphorus.

The method is applicable to all fertilizers, including compound fertilizers, where water soluble phosphorus is to be determined.

## 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.

EN 1482-2, *Fertilizers and liming materials — Sampling and sample preparation — Part 2: Sample preparation*

EN 12944-1, *Fertilizers and liming materials and soil improvers — Vocabulary — Part 1: General terms*

EN 12944-2, *Fertilizers and liming materials and soil improvers — Vocabulary — Part 2: Terms relating to fertilizers*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12944-1 and EN 12944-2 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/>

## 4 Principle

Extraction in water by shaking under the specified conditions.

## 5 Sampling

Sampling is not part of the method specified in this document. A recommended sampling method is given in EN 1482-1.

Sample preparation shall be carried out in accordance with EN 1482-2. Grinding of the laboratory sample is recommended for homogeneity reasons.

## 6 Reagents

### 6.1 Water, distilled or demineralized.

7 Apparatus

- 7.1 500 ml graduated flask, e.g. Stohmann.
- 7.2 Rotary shaker, 35 to 40 turns per minute.
- 7.3 Dry pleated filter, phosphate free.

8 Procedure

8.1 Test portion

Weigh, to the nearest 0,001 g, 5 g of the laboratory sample and place it in a graduated flask (7.1).

8.2 Extraction

Add to the test portion in the flask 450 ml of water (6.1), the temperature of which shall be between 20 °C and 25 °C.

Shake in the rotary shaker (7.2) for 30 min.

Then make up to the mark with water, mix thoroughly by shaking and filter through a dry pleated filter (7.3).

9 Test report

The test report shall contain at least the following information:

- a) all information necessary for the complete identification of the sample;
- b) the test method used with reference to this document including its publication year, i.e. ISO 15958:2019;
- c) test results obtained;
- d) the date of sampling and sampling procedure (if known);
- e) the date when the analysis was finished;
- f) whether the requirement of the repeatability limit has been fulfilled;
- g) all operating details not specified in this document, or regarded as optional, together with details of any incidents occurred when performing the method, which might have influenced the test result(s).

## Bibliography

- [1] EN 1482-1, *Fertilizers and liming materials — Sampling and sample preparation — Part 1: Sampling*
- [2] Regulation (EC) No 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilisers, Official Journal L 304, 21.11.2003, p. 1-194, Annex IV, Method 3.1.6







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