

BS EN 15919:2011



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Fertilizers — Extraction of phosphorus soluble in 2 % formic acid

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee CII/37, Fertilisers and related chemicals.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

Fertilizers - Extraction of phosphorus soluble in 2 % formic acidEngrais - Extraction du phosphore soluble dans l'acide
formique à 2 %Düngemittel - Extraktion des in 2%iger Ameisensäure
löslichen Phosphors

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Foreword

This document (EN 15919:2011) has been prepared by Technical Committee CEN/TC 260 “Fertilizers and liming materials”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by December 2011, and conflicting national standards shall be withdrawn at the latest by December 2011.

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1 Scope

This document specifies the procedure for the determination of phosphorus soluble in 2 % formic acid (20 g per litre). The method is applicable to soft natural phosphates exclusively.

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.

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

EN 12944-1:1999, *Fertilizers and liming materials and soil improvers — Vocabulary — Part 1: General terms*

EN 12944-2:1999, *Fertilizers and liming materials and soil improvers — Vocabulary — Part 2: Terms relating to fertilizers*

CEN/TS 15959, *Fertilizers — Determination of extracted phosphorus*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12944-1:1999 and EN 12944-2:1999 apply.

4 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 is recommended for homogeneity reasons.

5 Principle

To differentiate between hard natural phosphates and soft natural phosphates, phosphorus soluble in formic acid is extracted from the test portion with a 2 % formic acid solution under specified conditions.

6 Reagents

6.1 Water, distilled or demineralised.

6.2 Formic acid, 2 % ($\rho = 20$ g/l).

Make 82 ml of formic acid (concentration 98 % to 100 %; $d_{20} = 1,22$ g/ml) up to 5 l with distilled water.

7 Apparatus

7.1 Common laboratory equipment and glassware.

7.2 500 ml graduated flask, with a wide neck (e.g. Stohmann).

7.3 Rotary shaker, 35 turns to 40 turns per min.

7.4 Dry pleated filter, free from phosphates.

8 Procedure

8.1 Test portion

Weigh, to the nearest 0,001 g, 5 g of the laboratory sample and place it in a dry 500 ml graduated flask (7.2).

8.2 Extraction

While continuously rotating the flask by hand, add formic acid (6.2) to the test portion at (20 ± 1) °C until it is approximately 1 cm below the graduation mark and make up to the volume with formic acid (6.2). Close the flask with a rubber stopper and shake for 30 min at (20 ± 2) °C on a rotary shaker (7.3).

Filter the solution through a dry pleated filter (7.4) into a dry glass receptacle. Discard the first portion of the filtrate. Continue the filtering until a sufficient quantity of filtrate is obtained to carry out the phosphorus determination according to CEN/TS 15959.

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. 0001-0194, Annex IV, method 3.1.2

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