



SLOVENSKI STANDARD
SIST-TS CEN/TS 15920:2010
01-februar-2010

Gnojila - Ekstrakcija fosforja, topnega v 2-odstotni citronski kislini

Fertilizers - Extraction of phosphorus soluble in 2 % citric acid

Düngemittel - Extraktion des in 2%iger Citronensäure löslichen Phosphors

Engrais - Extraction du phosphore soluble dans l'acide citrique à 2 %

Ta slovenski standard je istoveten z: CEN/TS 15920:2009

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ICS:

65.080 Gnojila Fertilizers

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TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 15920

September 2009

ICS 65.080

English Version

Fertilizers - Extraction of phosphorus soluble in 2 % citric acid

Engrais - Extraction du phosphore soluble dans l'acide
citrique à 2 %

Düngemittel - Extraktion des in 2%iger Citronensäure
löslichen Phosphors

This Technical Specification (CEN/TS) was approved by CEN on 3 August 2009 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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Foreword

This document (CEN/TS 15920:2009) has been prepared by Technical Committee CEN/TC 260 "Fertilizers and liming materials", the secretariat of which is held by DIN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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CEN/TS 15920:2009 (E)**1 Scope**

This document specifies the procedure for the determination of phosphorus soluble in 2 % citric acid (20 g per litre).

The method is applicable only to types of basic slag (see [1], Annex I A).

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*

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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.

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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

Extraction of phosphorus from the sample with a 2 % citric acid solution (20 g/l) under specified conditions.

6 Reagents

6.1 Water, distilled or demineralized.

6.2 2 % citric acid solution, $\rho = 20$ g/l, prepared from crystallized citric acid ($C_6H_8O_7 \cdot H_2O$).

Verify the mass concentration of the citric acid solution by titrating 10 ml of the latter with a sodium hydroxide standard solution, $c = 0,1$ mol/l, using phenolphthalein as indicator.

If the solution is correct 28,55 ml of the standard solution should be used.

7 Apparatus

7.1 Common laboratory equipment and glassware.

7.2 **600 ml flask**, with sufficiently wide neck allowing the liquid to be shaken thoroughly.

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

7.4 **Dry pleated filter**, free of phosphates.

8 Procedure

8.1 Test portion

Weigh, to the nearest 0,001 g, 5 g of the prepared sample and place it in a dry 600 ml flask (7.2).

8.2 Extraction

Add to the test portion (500 ± 1) ml of the citric acid solution (6.2) at (20 ± 1) °C. When adding the first millilitres of the solution shake vigorously by hand to avoid the formation of lumps and to prevent the substance sticking to the sides. Close the flask with a rubber stopper and shake it in the rotary shaker (7.3) for exactly 30 min at a temperature of (20 ± 2) °C.

Filter the solution immediately through a dry pleated filter (7.4), into a dry glass receiver (7.1) and discard the first 20 ml of the filtrate. Continue the filtering until a sufficient quantity of filtrate is obtained to carry out the phosphorus determination.

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Bibliography

- [1] 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 3.1.3
- [2] EN 1482-1, *Fertilizers and liming materials — Sampling and sample preparation — Part 1: Sampling*

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