



SLOVENSKI STANDARD

SIST EN 15961:2012

01-marec-2012

Nadomešča:

SIST-TS CEN/TS 15961:2010

Gnojila - Ekstrakcija v vodi topnega kalcija, magnezija, natrija in žvepla v obliki sulfatov

Fertilizers - Extraction of water-soluble calcium, magnesium, sodium and sulfur in the form of sulfates

Düngemittel - Extraktion von wasserlöslichem Calcium, Magnesium und Natrium sowie von Schwefel in Form von Sulfat

Engrais - Extraction des formes solubles dans l'eau du calcium, du magnésium, du sodium et du soufre sous forme de sulfate

Ta slovenski standard je istoveten z: EN 15961:2011

ICS:

65.080

Gnojila

Fertilizers

SIST EN 15961:2012

en,fr,de

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EUROPEAN STANDARD

EN 15961

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2011

ICS 65.080

Supersedes CEN/TS 15961:2009

English Version

Fertilizers - Extraction of water-soluble calcium, magnesium, sodium and sulfur in the form of sulfates

Engrais - Extraction des formes solubles dans l'eau du calcium, du magnésium, du sodium et du soufre sous forme de sulfate

Düngemittel - Extraktion von wasserlöslichem Calcium, Magnesium und Natrium sowie von Schwefel in Form von Sulfat

This European Standard was approved by CEN on 15 October 2011.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 15961:2011) 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 May 2012, and conflicting national standards shall be withdrawn at the latest by May 2012.

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 supersedes CEN/TS 15961:2009.

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

The following has been added to the former edition of the European Standard:

- a) the CEN Technical Specification has been adopted as a European Standard;
- b) editorial revision.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

EN 15961:2011 (E)**1 Scope**

This European Standard specifies a method for the extraction of water-soluble calcium, magnesium, sodium and sulfur (in the form of sulfates), so that the same extract may be used for the determination of each nutrient required.

The method is solely applicable to fertilizers listed in Regulation (EC) 2003/2003, Annex I (see [2]), for which a declaration of the water-soluble calcium, magnesium, sodium, and sulfur (in the form of sulfates) is provided for in this Regulation.

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 Principle

Extraction of the calcium, magnesium, sodium, and sulfur (present in the form of sulfates) in the fertilizer by boiling in water 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 **Standard laboratory equipment.**
- 7.2 **Electric hot plate**, with adjustable temperature.
- 7.3 **Beaker**, capacity 600 ml.
- 7.4 **Graduated flask**, capacity 500 ml.
- 7.5 **Dry filter.**

8 Procedure

8.1 Test portion

Where fertilizers contain no sulfur or where they contain, at the same time, no more than 3 % of sulfur (S) i.e. 7,5 % SO₃, and no more than 4 % of calcium (Ca) i.e. 5,6 % CaO, weigh 5 g of the test sample to the nearest 1 mg. Place it in the beaker (7.3).

Where fertilizers contain more than 3 % of sulfur (S) and more than 4 % of calcium (Ca), weigh 1 g of the test sample to the nearest 1 mg. Place it in the beaker (7.3).

8.2 Preparation of the solution

Add approximately 400 ml of water (6.1) to the test portion (8.1) and boil for 30 min. Allow to cool, stirring occasionally. Decant quantitatively into a graduated flask (7.4). Make up to volume with water (6.1), and mix. Pass through a filter (7.5) into a dry container. Discard the initial portions of the filtrate.

The filtrate shall be completely transparent. Stopper if the filtrate is not used immediately.

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) test method used with reference to this document;
- c) test results obtained;
- d) date of sampling and sampling procedure (if known);
- e) 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 I and Annex IV, Method 8.3

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