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Liming materials - Determination of calcium content - Oxalate method

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13475:2002 sisaldab Euroopa standardi EN 13475:2001 ingliskeelset teksti.	This Estonian standard EVS-EN 13475:2002 consists of the English text of the European standard EN 13475:2001.
Standard on kinnitatud Eesti Standardikeskuse 16.05.2002 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 16.05.2002 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 14.11.2001.	Date of Availability of the European standard text 14.11.2001.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 65.080

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13475

November 2001

ICS 65.080

English version

Liming materials - Determination of calcium content - Oxalate method

Amendements minéraux basiques - Détermination de la teneur en calcium - Méthode à l'oxalate

Calcium-/Magnesium-Bodenverbesserungsmittel - Bestimmung des Calciumgehaltes - Oxalatverfahren

This European Standard was approved by CEN on 29 September 2001.

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

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Ref. No. EN 13475:2001 E

Contents

Foreword

This European Standard 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of an identical text or by endorsement, at the latest by May 2002, and conflicting national standards shall be withdrawn at the latest by May 2002.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies a method for the determination of the calcium content of silicate liming materials including slags.

NOTE 1 The method has been shown to be suitable for other liming materials too, but there are no precision data available yet.

NOTE 2 The method is also applicable for the determination of the calcium content of mineral fertilizers.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 1482, *Sampling of solid fertilizers and liming materials.*

ISO 3310-1, *Test sieves – Technical requirements and testing – Part 1: Test sieves of metal wire cloth.*

3 Principle

After dissolution of the sample in a mixture of hydrochloric acid and nitric acid, calcium is precipitated in the form of calcium oxalate at a pH between 4,4 and 4,6. The supernatant solution is removed by means of an immersion filter. The calcium oxalate precipitate is dissolved in sulfuric acid and the calcium content is determined by titration with potassium permanganate.

4 Reagents

4.1 General

Commercially available standard solutions may be used instead of standard solutions produced in the laboratory. Variations in concentration shall be taken into account for the calculation of the results.

4.2 Hydrochloric acid, ρ_{20}(HCl) = 1,19 g/ml, c(HCl) = 12,5 mol/l.

4.3 Nitric acid, ρ_{20}(HNO_3) = 1,40 g/ml, c(HNO_3) = 14,9 mol/l.

4.4 Citric acid solution

Dissolve 300 g of citric acid monohydrate in water and make up to 1 l.

4.5 Ammonium chloride solution

Dissolve 100 g of ammonium chloride in water and make up to 1 l. Mix well.

4.6 Bromocresol green

Dissolve 5 g of bromocresol green in ethanol with a volume concentration of ethanol of 96% and make up to 1 l.

4.7 Ammonium oxalate solution, saturated

Dissolve sufficient ammonium oxalate monohydrate (approximately 70 g) in 1 l of water to produce a saturated solution. After reaching saturation, filter the solution.