

## **Soil improvers and growing media - Determination of nitrogen - Part 1: Modified Kjeldahl method**

Soil improvers and growing media - Determination of  
nitrogen - Part 1: Modified Kjeldahl method

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13654-1:2002 sisaldab Euroopa standardi EN 13654-1:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 16.01.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13654-1:2002 consists of the English text of the European standard EN 13654-1:2001.</p> <p>This document is endorsed on 16.01.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This European Standard specifies a method for the determination of nitrogen in soil improvers and growing media. The Kjeldahl method determines ammonium-N, nitrate-N, nitrite-N and organic N) content of soil improvers and growing media.</p>	<p><b>Scope:</b></p> <p>This European Standard specifies a method for the determination of nitrogen in soil improvers and growing media. The Kjeldahl method determines ammonium-N, nitrate-N, nitrite-N and organic N) content of soil improvers and growing media.</p>
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**ICS** 65.080

**Võtmesõnad:** e, extraction methods of an, growing media, kjeldahl, kjeldahl method, kjeldahls method, methods of analysis, modified, nitrogen, nitrogen content, nitrogenous fertilizers, soil improvement, soil improving materials, soils, soluble, solvents, substrates (insulating)

ICS 65.080

English version

Soil improvers and growing media - Determination of nitrogen -  
Part 1: Modified Kjeldahl method

Amendements du sol et supports de culture -  
Détermination de l'azote - Partie 1: Méthode de Kjeldahl  
modifiée

Bodenverbessungsmittel und Kultursubstrate - Bestimmung  
von Stickstoff - Teil 1: Modifiziertes Verfahren nach Kjeldahl

This European Standard was approved by CEN on 11 August 2001.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 223 "Soil improvers and growing media", the secretariat of which is held by BSI.

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 March 2002, and conflicting national standards shall be withdrawn at the latest by March 2002.

The annexes A and B are informative.

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.

**SAFETY PRECAUTIONS** — Care should be taken when handling samples that may contain sharps or is of a dusty nature.

## 1 Scope

This European Standard specifies a method for the determination of nitrogen in soil improvers and growing media. The Kjeldahl method determines ammonium-N, nitrate-N, nitrite-N and organic N content of soil improvers and growing media. Nitrogen in N-N-linkages, N-O-linkages and some heterocyclics (especially pyridine) is only partially determined. [6], [7], [8]

The method is not applicable to liming materials and preformed materials such as mineral wool slabs and foam slabs.

NOTE The requirements of the standard may differ from the national legal requirements for the declaration of the products concerned.

## 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 ISO 3696, *Water for analytical laboratory use - Specification and test methods (ISO 3696:1987)*.

EN 13040:1999, *Soil improvers and growing media - Sample preparation for chemical and physical test, determination of dry matter content, moisture content and laboratory compacted bulk density*.

## 3 Terms and definitions

For the purposes of this standard the terms and definitions given in EN 13040 apply.

## 4 Principle

The nitrogen content of the sample is determined using a method based on a sulfuric acid/potassium sulfate digestion. Copper sulfate is used as the catalyst.

## 5 Reagents

### 5.1 General

All reagents shall be of recognized analytical grade. Use water of grade 2 complying with EN ISO 3696.

**5.2 Salicylic acid/sulfuric acid**, dissolve 25 g of salicylic acid ( $\text{HO.C}_6\text{H}_4\text{COOH}$ ) in 1000 ml of concentrated sulfuric acid ( $\rho = 1,84 \text{ g/ml}$ ).

**5.3 Potassium sulfate catalyst mixture**, grind and thoroughly mix 200 g of potassium sulfate, 6 g of copper (II) sulfate pentahydrate. (This mixture may be available commercially).