



National Standards Authority of Ireland

IRISH STANDARD

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ICS 65.080

**SOIL IMPROVERS AND GROWING MEDIA -
EXTRACTION OF CALCIUM
CHLORIDE/DTPA (CAT) SOLUBLE
NUTRIENTS**

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English version

Soil improvers and growing media - Extraction of calcium chloride/DTPA (CAT) soluble nutrients

Amendements du sol et supports de culture - Extraction des éléments nutritifs solubles dans le chlorure de calcium/DTPA (CAT)

Bodenverbesserungsmittel und Kultursubstrate - Extraktion von in Calciumchlorid/DTPA (CAT) löslichen Nährstoffen

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

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of an identical text or by endorsement, at the latest by March 2002, and conflicting national standards shall be withdrawn at the latest by March 2002.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

EN 13651:2001 (E)

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 an extraction method for the routine determination of calcium chloride/DTPA (CAT-method) extractable nutrients and elements (as listed in annex B) in soil improvers or growing media.

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 tests, 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

A sample is extracted with calcium chloride/DTPA at $22\text{ °C} \pm 3\text{ °C}$ in an extraction volume ratio of 1+5. The extracted nutrients are determined by various methods as appropriate (see annex B).

5 Reagents

5.1 General

All reagents used shall be of recognised analytical quality and water of grade 2 according to EN ISO 3696.

5.2 Dihydrated calcium chloride, $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$.

5.3 Diethylenetriaminepentaacetic acid (DTPA), $\text{C}_{14}\text{H}_{23}\text{N}_3\text{O}_{10}$.

5.4 Concentrated extracting solution CaCl_2 /DTPA, (CAT), dissolve 14,7 g $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$ (5.2) and 7,88 g DTPA (5.3) in 800 ml hot water (temperature approximately 80 °C) with stirring on a magnetic stirrer in a 1000 ml beaker. At $75\text{ °C} \pm 10\text{ °C}$ the reagents will dissolve within 2 h. Allow to cool to ambient temperature. Transfer the solution to a 1000 ml flask and dilute to the mark with water. The

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