

ICS 13.030.01

English Version

Sludge, treated biowaste and soil - Determination of viable plant seeds and propagules

Boues, bio-déchets traités et sols - Détermination de la germination des graines adventices viables et des propagules végétales

Schlamm, behandelter Bioabfall und Boden - Bestimmung keimfähiger Pflanzensamen und Keimlinge

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Foreword

This document (CEN/TS 16201:2013) has been prepared by Technical Committee CEN/TC 400 "Project Committee - Horizontal standards in the field of sludge, biowaste and soil", 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.

This Technical Specification is part of a modular horizontal approach in which this document belongs to the analytical step.

The preparation of this document by CEN is based on a mandate by the European Commission (Mandate M/330), which assigned the development of standards on sampling and analytical methods for hygienic and biological parameters as well as inorganic and organic determinants, aiming to make these standards applicable to sludge, treated biowaste and soil as far as this is technically feasible.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This Technical Specification is the result of a desk study "Horizontal European Standards for Contamination with Viable Weed Seeds and Plant Propagules" which aimed at evaluating the latest developments in assessing weeds and plant propagules in sludge, treated biowaste and soil.

1 Scope

This Technical Specification specifies a test procedure for the determination of the content of unwanted viable weed seeds and plant propagules in growing media and soil improvers (see also Annex B for validation results).

The method in general is also applicable to soils and sludges.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13037, *Soil improvers and growing media — Determination of pH*

EN 13038, *Soil improvers and growing media — Determination of electrical conductivity*

EN 13040, *Soil improvers and growing media — Sample preparation for chemical and physical tests, determination of dry matter content, moisture content and laboratory compacted bulk density*

EN 15933, *Sludge, treated biowaste and soil — Determination of pH*

CEN/TS 15937, *Sludge, treated biowaste and soil — Determination of specific electrical conductivity*

EN ISO 3696, *Water for analytical laboratory use — Specification and test methods (ISO 3696)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

plant propagule

part of a plant capable of tillering

3.2

weed

any unwanted plant that germinates or emerges

4 Principle

Samples are gently pretreated (by sieving, mixing, sub-dividing), the pH and the electrical conductivity are measured, and the development of plants, whether from seeds, or plant propagules, is determined after a 21-day incubation period under controlled conditions.

5 Reagents and test materials

5.1 Water, quality 3 according to EN ISO 3696:1995 (tap water).

5.2 Sphagnum peat, with a degree of humification of H3 to H5, according to von Post scale, having a pH of between 3,0 and 4,5, an electrical conductivity of between $1 \text{ mS} \cdot \text{m}^{-1}$ and $5 \text{ mS} \cdot \text{m}^{-1}$, a particle size of