

November 2023

ICS 65.080

English Version

Fertilizers, liming materials and inhibitors - Sampling and sample preparation - Part 4: Sampling for microbial presence

Engrais, amendements minéraux basiques et inhibiteurs - Échantillonnage et préparation de l'échantillon - Partie 4 : Échantillonnage pour déterminer la présence microbienne

Düngemittel, Kalkdünger und Inhibitoren - Probenahme und Probenvorbereitung - Teil 4: Probenahme für das Vorkommen von Mikroorganismen

This draft European Standard is submitted to CEN members for formal vote. It has been drawn up by the Technical Committee CEN/TC 260.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Sampling	6
4.1 General requirements	6
4.2 Sampling types of materials	6
4.3 Sampling procedure	7
4.3.1 Maximum quantity of the sampled portion	7
4.3.2 Number of segments to be sampled	7
4.3.3 Calculation of the minimum number of sampling points	8
4.3.4 Calculation of the minimum number of sampling points per segment	8
4.3.5 Minimum quantity of a segment sample	8
4.3.6 Collecting the samples	8
5 Labelling of samples	9
6 Submission of samples to laboratory	9
7 Sampling report	9
8 Multipurpose sampling	10
Annex A (normative) Multipurpose sampling method	11
A.1 Sampling strategy	11
Figure A.1 — Flowchart for the sampling procedure and the subsequent handling at the laboratory	12
A.2 Sampling purpose	12
Table A.1 — Sampling strategy aspects for the different tests for which a sample can be taken	13
A.3 Sample size required	13
Bibliography	14

European foreword

This document (FprEN 1482-4:2023) has been prepared by Technical Committee CEN/TC 260 “Fertilizers and liming materials”, the secretariat of which is held by DIN.

This document is currently submitted to Formal Vote.

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

EN 1482, *Fertilizers, liming materials and inhibitors — Sampling and Sample preparation* consists of four parts:

- *Part 1: General sampling provisions;*
- *Part 2: General sample preparation provisions;*
- *Part 3: Sampling of static heaps;*
- *Part 4: Sampling for microbial presence.*

Introduction

In order to check compliance with the related requirements of Regulation (EU) 2019/1009 [1] methods have to be specified in standards. In this document the method for obtaining a sample from organic fertilizers, organo-mineral fertilizers and inorganic fertilizers containing more than 1 % by mass of organic carbon to detect levels of microbial presence is specified. Any set of segment samples collected by following the procedures described in this standard is considered to be representative of the sampled portion.

1 Scope

This document specifies the method for taking a sample from both solid and liquid forms of organic fertilizers, organo-mineral fertilizers and inorganic fertilizers containing more than 1 % by mass of organic carbon, when in packages, containers or in bulk, to detect levels of microbial presence. For the applicability to blends refer to 4.2.4.

This document does not apply to sampling for microbial presence in growing media and soil improvers (see EN 12579 [6]) or plant biostimulants (see CEN/TS 17702-1 [3]).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 12944-1, *Fertilizers and liming materials and soil improvers - Vocabulary - Part 1: General terms*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12944-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

batch

total quantity of material present assumed to have the same characteristics

Note 1 to entry: A batch is produced by the same process at the same time, under the same conditions and labelled in the same manner.

3.2

sampled portion

in relation to sampling for microbiological testing, the quantity of material from the same batch from which segment samples are taken

3.3

segment

(virtual) part of the sampled portion from which a segment sample is taken for microbiological testing

3.4

segment sample

combination of all incremental samples taken from one segment for microbiological testing to be used as a laboratory sample

3.5

sampling point

point from which the incremental sample is taken

3.6

incremental sample

quantity of material taken from one sampling point

3.7

solid form

form characterised by structural rigidity and resistance to changes of shape or volume, either in a regular geometric lattice (crystalline solids) or in an irregular manner (an amorphous solid)

Note 1 to entry: Based on Regulation (EU) 2019/1009 [1], Chapter 1, Article 2, (7).

3.8

liquid form

suspension or solution

Note 1 to entry: Based on Regulation (EU) 2019/1009 [1], Chapter 1, Article 2, (6).

3.9

competent person

person who has acquired through training, qualifications or experience, or a combination of these, the knowledge and skills enabling that person to perform a specified task

[SOURCE: ISO 17842-1:2015, 3.6 [7]]

4 Sampling

4.1 General requirements

4.1.1 All sampling equipment shall be clean, dry and made from materials which will not contaminate the sample. Sampling equipment shall be appropriate to the physical characteristics of the product in order to ensure a representative sample of the product is obtained, i.e. size of individual units of the product, width and depth of flow of material being sampled in motion. Examples for sampling equipment for various sampling methods are prescribed in EN 1482-1.

4.1.2 Sampling equipment, including sample containers, shall be subject to a sterilisation process before use. To avoid cross-contamination, another set of sterilised equipment shall be used to obtain each individual segment sample. When using new, unopened plastic bags, the bags do not need sterilisation.

4.1.3 Steps shall be taken when sampling, sample handling and sample transport to avoid any sort of contamination of the sample. Sampling shall be undertaken by a competent person.

4.2 Sampling types of materials

4.2.1 Where a product is chemically declared as a fertilizer but appears physically more like a soil improver or growing media, and consists totally or mainly of one or more of the following products:

- a) organic material, substances or mixtures of these, or
- b) plants, plant parts or plant extracts or
- c) compost or
- d) fresh crop digestates or
- e) digestates other than fresh crop digestate.

Sampling shall follow the same sampling plan for microbial sampling for the above type of products as detailed in EN 12579 [6].