



Institut luxembourgeois de la normalisation  
de l'accréditation, de la sécurité et qualité  
des produits et services

**ILNAS-EN 1482-4:2024**

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

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

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

**04/2024**



## National Foreword

This European Standard EN 1482-4:2024 was adopted as Luxembourgish Standard ILNAS-EN 1482-4:2024.

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

<https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html>

### **THIS PUBLICATION IS COPYRIGHT PROTECTED**

Nothing from this publication may be reproduced or utilized in any form or by any mean - electronic, mechanical, photocopying or any other data carries without prior permission!

ILNAS-EN 1482-4:2024

EUROPEAN STANDARD **EN 1482-4**

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2024

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 European Standard was approved by CEN on 29 January 2024.

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 CEN-CENELEC 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 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.



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

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

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

## European foreword

This document (EN 1482-4:2024) 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 October 2024, and conflicting national standards shall be withdrawn at the latest by October 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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.*

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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 the United Kingdom.

## 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 - 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 of 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].