

Fertilizers and liming materials - Sampling and sample preparation - Part 1: Sampling (ISO 14820-1:2016)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 14820-1:2019 sisaldab Euroopa standardi EN ISO 14820-1:2019 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 14820-1:2019 consists of the English text of the European standard EN ISO 14820-1:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 05.06.2019.	Date of Availability of the European standard is 05.06.2019.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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ICS 65.080

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English Version

**Fertilizers and liming materials - Sampling and sample preparation - Part 1: Sampling (ISO 14820-1:2016)**

Engrais et amendements minéraux basiques -  
Échantillonnage et préparation de l'échantillon - Partie  
1: Échantillonnage (ISO 14820-1:2016)

Düngemittel und Kalkdünger - Probenahme und  
Probenvorbereitung - Teil 1: Probenahme (ISO 14820-  
1:2016)

This European Standard was approved by CEN on 1 April 2019.

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

## European foreword

The text of ISO 14820-1:2016 has been prepared by Technical Committee 134 "Fertilizers, soil conditioners and beneficial substances" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 14820-1:2019 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of an identical text or by endorsement, at the latest by December 2019, and conflicting national standards shall be withdrawn at the latest by December 2019.

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.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 14820-1:2016 has been approved by CEN as EN ISO 14820-1:2019 without any modification.

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

ISO 14820-1:2016 was prepared by CEN/TC 260, *Fertilizers and liming materials* (as EN 1482-1:2007) and was adopted without modification other than those stipulated below by ISO/TC 134, *Fertilizers and soil conditioners*.

- The EN references (EN 1482-1 and EN 1482-2) have been changed to ISO references (ISO 14820-1 and ISO 14820-2).
- The definitions in [3.1](#), [3.4](#) and [3.5](#) have been modified slightly to align them with those in ISO 8157:2015. ISO 8157 has been added to the Bibliography.
- For consistency, “rotating sample divider” has been changed to “rotary sample divider” throughout the text. (The term “rotary” was already used in Annexes A and C in EN 1482-1:2007 and in 5.1 in EN 1482-2:2007.)
- In [4.2.2](#), [5.3.1](#), [5.6.1](#), [5.6.4.3.5](#), [5.7](#), [5.11.2.1](#) and [A.3](#), notes have been changed to full text.
- In [5.2.3](#), [5.4.2](#), [5.6.3](#) and [5.7.2](#), the apparatus are now listed under separate subclause numbers.
- ISO 2602 has been moved from [Clause 2](#) to the Bibliography; it is only cited after “such as” in [A.5.1](#).

ISO 14820 consists of the following parts, under the general title *Fertilizers and liming materials* — *Sampling and sample preparation*:

- *Part 1: Sampling*
- *Part 2: Sample preparation*

## Introduction

This part of ISO 14820 covers the following aspects of sampling, derived from the International Standards and documents indicated below but presented in a simplified and condensed form. The titles of these International Standards are given in the Bibliography.

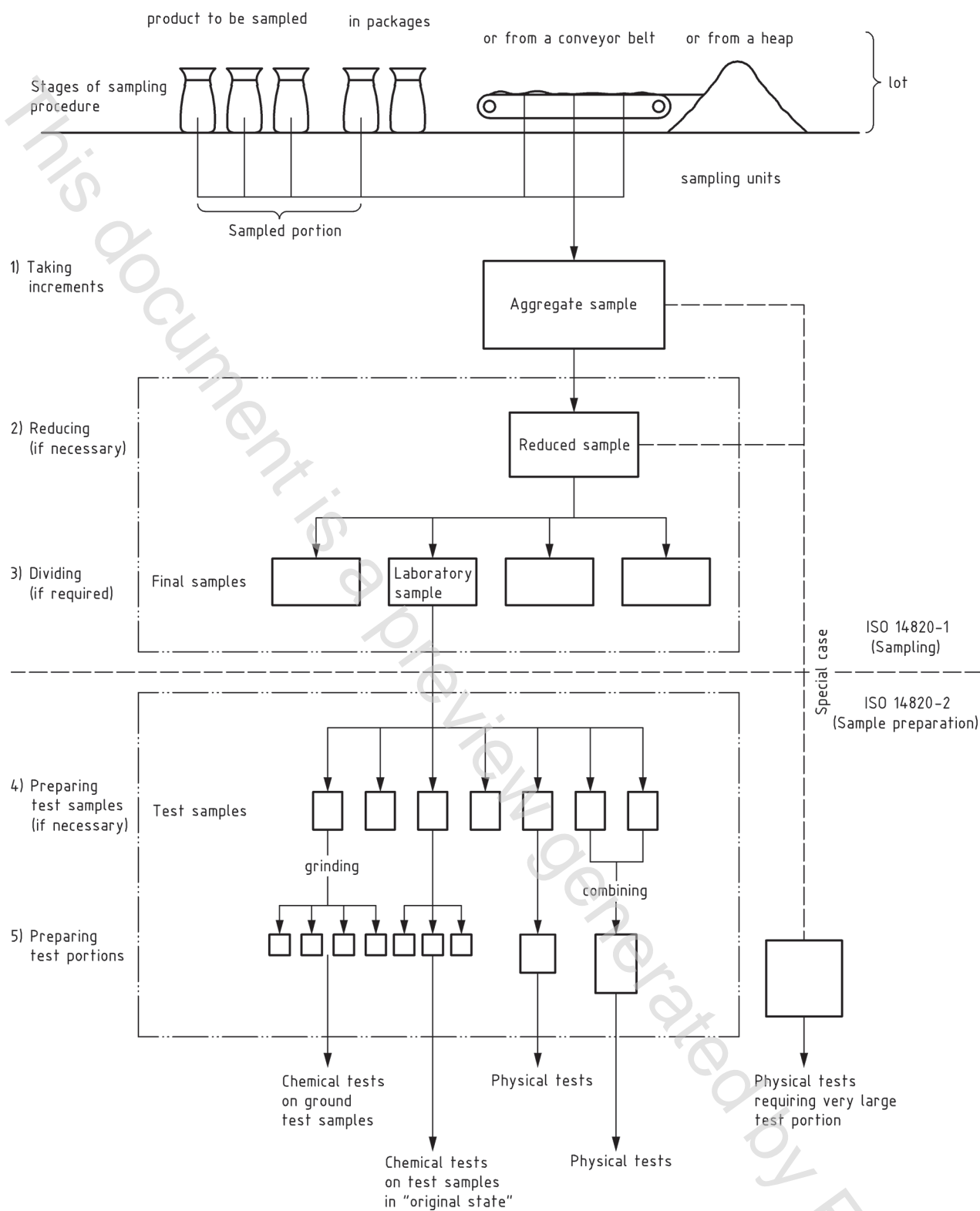
- Sampling plans and quantitative data: ISO 8634, ISO/TR 5307, ISO/TR 7553 and EEC 77/535 (superseded by Regulation (EC) No 2003/2003).
- Sampling methods: ISO 3963, and EEC 77/535 (superseded by Regulation (EC) No 2003/2003).
- Reduction: ISO 7410, ISO 7742, ISO 8358 and EEC 77/535 (superseded by Regulation (EC) No 2003/2003).
- Sampling reports: ISO 5306 and EEC 77/535 (superseded by Regulation (EC) No 2003/2003).

ISO 14820-2 covers the reduction and preparation of samples for analysis.

[Figure 1](#) gives a schematic diagram of the sampling and sample preparation process for solids.

The fundamental principle of representative sampling is that every particle has an equal chance of being selected or rejected. This principle cannot easily be complied with in the case of bulk heaps of solid fertilizers or large storage tanks of fluid fertilizers as the majority of the material cannot be reached by any sampling device. The fertilizer in these cases should be sampled during transfer, during the building up of the heap, during the filling of the storage tank, during dispatch or where it is being moved solely for sampling purposes.





**Figure 1 — Schematic diagram of sampling process for solids**

# Fertilizers and liming materials — Sampling and sample preparation —

## Part 1: Sampling

### 1 Scope

This part of ISO 14820 specifies sampling plans and methods of representative sampling of fertilizers and liming materials to obtain samples for physical and chemical analysis, from packages and containers up to and including 1 000 kg, from fluid products and from fertilizers in bulk provided the product is in motion.

It is applicable to the sampling of lots of fertilizer or liming material supplied or ready for supply to third parties, as such, or in smaller lots, each of which would be subject to local, national or regional legislation. Where legislation so requires, samples are taken in accordance with this part of ISO 14820.

**NOTE** The term “fertilizer” is used throughout the body of this document and is taken to include liming materials unless otherwise indicated.

This part of ISO 14820 does not cover complete, statistical sampling plans.

### 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 1235, *Solid fertilizers — Test sieving (ISO 8397:1988 modified)*

ISO 3310-1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

### 3 Terms and definitions

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

#### 3.1

##### **aggregate sample**

combination of all increments from the lot

Note 1 to entry: The increments may be grouped together in equal numbers in order to form several aggregate samples which can be reduced and analysed separately for the purpose of statistical interpretation.

[SOURCE: ISO 8157:2015, 2.6.4]

#### 3.2

##### **delivery**

quantity of material transferred at one time

#### 3.3

##### **division**

process of producing a number of representative smaller portions, approximately equal in mass to each other, from a larger mass