



SLOVENSKI STANDARD
SIST-TS CEN/TS 15924:2010
01-februar-2010

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Fertilizers - Determination of the fineness of grinding of soft natural phosphates

Düngemittel - Bestimmung der Mahlfeinheit von weicherdigem Rohphosphat

Engrais - Détermination de la finesse de mouture des phosphates naturels tendres

Ta slovenski standard je istoveten z: **CEN/TS 15924:2009**

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ICS:

65.080 Gnojila Fertilizers

SIST-TS CEN/TS 15924:2010 **en,fr,de**

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TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 15924

September 2009

ICS 65.080

English Version

**Fertilizers - Determination of the fineness of grinding of soft
natural phosphates**

Engrais - Détermination de la finesse de mouture des
phosphates naturels tendres

Düngemittel - Bestimmung der Mahlfeinheit von
weicherdigem Rohphosphat

This Technical Specification (CEN/TS) was approved by CEN on 3 August 2009 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (CEN/TS 15924:2009) has been prepared by Technical Committee CEN/TC 260 "Fertilizers and liming materials", the secretariat of which is held by DIN.

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CEN/TS 15924:2009 (E)

1 Scope

This document specifies a method for the determination of the fineness of grinding of soft natural phosphates by wet sieving.

2 Normative references

The following referenced documents are indispensable for the application 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 1482-2, *Fertilizers and liming materials – Sampling and sample preparation – Part 2: Sample preparation*

EN 12944-1:1999, *Fertilizers and liming materials and soil improvers – Vocabulary – Part 1: General terms*

EN 12944-2:1999, *Fertilizers and liming materials and soil improvers – Vocabulary – Part 2: Terms relating to fertilizers*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12944-1:1999 and EN 12944-2:1999 apply.

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4 Principle

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For samples of fine particle size, agglomeration may occur, thus making dry sieving difficult. For this reason, wet sieving is normally used.

By mechanical wet sieving, the quantities of product with a granule size greater than 0,125 mm and those with a granule size between 0,063 mm and 0,125 mm are determined, and the percentage of fineness of grinding is calculated.

5 Sampling

Sampling is not part of the method specified in this document. A recommended sampling method is given in EN 1482-1.

Sample preparation shall be carried out in accordance with EN 1482-2.

6 Reagents

6.1 **Sodium hexametaphosphate**, solution 1 %.

7 Apparatus

7.1 **Sieves**, with aperture sizes of 0,063 mm and 0,125 mm respectively of standard ranges, diameter 20 cm and height 5 cm).

7.2 Collecting containers.

7.3 Glass funnel, of 20 cm diameter mounted on a stand.

7.4 250 ml beakers.

7.5 Drying oven.

8 Procedure

8.1 Test portion

Weigh, to the nearest 0,05 g, approximately 50 g of the laboratory sample. Wash both sides of the sieve with water and place the sieve with 0,125 mm apertures above the 0,063 mm sieve.

8.2 Sieving procedure

8.2.1 Place the test portion (8.1) on the top sieve. Sieve under a small jet of cold water (tap water may be used) until the water is practically clear when it passes through. Care should be taken to ensure that the flow of water is such that the lower sieve never will be filled with water.

8.2.2 When the residue on the top sieve seems to remain more or less constant, remove this sieve, and place, in the meanwhile on a collecting container (7.2).

8.2.3 Continue the wet sieving through the lower sieve for a few minutes, until the water passing through is nearly clear.

8.2.4 Replace the 0,125 mm sieve over the 0,063 mm sieve. Transfer any deposit from the collecting container to the top sieve and begin sieving again under a small jet of water until this water becomes almost clear once more.

8.2.5 Quantitatively transfer each of the residues into a different weighed beaker (7.4) by means of the funnel (7.3). Suspend each residue by filling the beakers with water. Leave to stand for about 1 min, decant, as much water as possible.

8.2.6 Place the beakers in the drying oven (7.5) at $(150 \pm 5)^\circ\text{C}$ until constant weight.

8.2.7 Allow them to cool and weigh.

8.2.8 If the presence of lumps is observed after sieving, the analysis should be carried out again in the following way.

Slowly pour 50 g of the laboratory sample into a 1 l flask containing 500 ml of the sodium hexametaphosphate solution (6.1) stirring continuously. Stopper the flask and shake vigorously by hand to break up the lumps. Transfer the whole suspension into the top sieve and wash the flask thoroughly. Continue the analysis as described in 8.2.

9 Calculation and expression of the result

Calculate the fineness of grinding of the sample passing the sieve with 0,125 mm aperture size, $F_{0,125}$, in percent (mass fraction) according to the following formula:

$$F_{0,125} = (M - M_1) \times 2 \quad (1)$$

CEN/TS 15924:2009 (E)

Calculate the fineness of grinding of the sample passing the sieve with 0,063 mm aperture size, $F_{0,063}$, in percent (mass fraction) according to the following formula:

$$F_{0,063} = [M - (M_1 + M_2)] \times 2 \quad (2)$$

where

M is the mass, in grams, of the test portion;

M_1 is the mass, in grams, of the residue on the sieve, with 0,125 mm aperture size;

M_2 is the mass, in grams, of the residue on the sieve, with 0.063 mm aperture size.

Round up the results of these calculations to the nearest unit.

10 Test report

The test report shall contain at least the following information.

- a) The test method used with a reference to this document;
- b) all information necessary for the complete identification of the sample;
- c) date of sampling and sampling procedure (if known);
- d) date when the analysis was finished; **(standards.iteh.ai)**
- e) the results of the determination, expressed as percentage of fineness of the fertilizer;
- f) all operating details not specified in this document, or regarded as optional, together with details of any incidents that occurred when performing the method which might have influenced the test result(s).