

VÄETISED. SULFAADISISALDUSE MÄÄRAMINE KOLME
ERI MEETODI ABIL

Fertilizers - Determination of sulfates content using
three different methods

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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EUROPEAN STANDARD

EN 15749

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2022

ICS 65.080

Supersedes EN 15749:2009

English Version

Fertilizers - Determination of sulfates content using three different methods

Engrais - Dosage des sulfates selon trois méthodes différentes

Düngemittel - Bestimmung von Sulfat mit drei verschiedenen Verfahren

This European Standard was approved by CEN on 3 July 2022.

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European foreword

This document (EN 15749:2022) 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of an identical text or by endorsement, at the latest by February 2023, and conflicting national standards shall be withdrawn at the latest by February 2023.

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 supersedes EN 15749:2009.

In comparison with the previous edition, the following technical modifications have been made:

- update of the normative references;
- Formula (18) has been corrected;
- addition of more data as result of inter-laboratory tests, Annex B and Annex C.

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.

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Introduction

This document specifies three different methods for the determination of sulfur. Based on the statistical results of the inter-laboratory tests, obtained with the same samples, the three methods produce equivalent results, therefore all three methods can be used, depending on the decision of the user and the availability of equipment.

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1 Scope

This document specifies three different methods (Methods A, B and C) for the determination of sulfur present in fertilizer extracts in the form of sulfates. Method A specifies the gravimetric method. Method B specifies the method using inductively coupled plasma optical spectrometry (ICP-OES). Method C specifies the method using ion chromatography (IC).

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 1482-2, *Fertilizers and liming materials - Sampling and sample preparation - Part 2: Sample preparation*

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

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

EN 15925, *Fertilizers - Extraction of total sulfur present in various forms*

EN 15926, *Fertilizers - Extraction of water soluble sulfur where the sulfur is in various forms*

EN 15960, *Fertilizers - Extraction of total calcium, total magnesium, total sodium and total sulfur in the forms of sulfates*

EN 15961, *Fertilizers - Extraction of water-soluble calcium, magnesium, sodium and sulfur in the form of sulfates*

EN ISO 3696:1995, *Water for analytical laboratory use - Specification and test methods (ISO 3696:1987)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12944-1 and EN 12944-2 apply. ISO and IEC maintain terminological databases for use in standardization at the following addresses:

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

4 Principle

4.1 Method A: Gravimetric method

Sulfur is extracted from the sample according to the methods described in EN 15925, EN 15926, EN 15960 or EN 15961 and determined based on the gravimetric determination as barium sulfate.

4.2 Method B: ICP-OES

Sulfur is extracted from the sample according to the methods described in EN 15925, EN 15926, EN 15960 or EN 15961 and its concentration in the extract is measured by inductively coupled plasma optical emission spectrometry (ICP-OES).