

STN	Priemyselné hnojivá Stanovenie bóru v koncentráciách menších alebo rovných ako 10 % spektrometriou s azometínom H	STN EN 17041 65 4961
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Fertilizers - Determination of boron in concentrations 10 % using spectrometry with azomethine-H

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

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English Version

**Fertilizers - Determination of boron in concentrations ≤ 10
% using spectrometry with azomethine-H**Engrais - Dosage du bore dans des concentrations ≤ 10
% par spectrométrie avec l'azomethine-HDüngemittel - Bestimmung von Bor in Konzentrationen
 ≤ 10 % durch Spektrometrie mit Azomethin-H

This European Standard was approved by CEN on 26 February 2018.

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European foreword

This document (EN 17041:2018) 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of an identical text or by endorsement, at the latest by December 2018, and conflicting national standards shall be withdrawn at the latest by December 2018.

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 mandate given to CEN by the European Commission and the European Free Trade Association.

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EN 17041:2018 (E)**Introduction**

The preparation of this document by CEN is based on a mandate by the European Commission and the European Free Trade Association (Mandate M/335), concerning the modernization of methods of analysis on fertilizers in the framework of Regulation (EC) No 2003/2003 [1].

This European Standard is part of a modular approach and concerns the analytical measurement step. “Modular” means that a test standard concerns a specific step in assessing a property and not the whole chain of measurements.

The determination of boron in fertilizers can be executed by inductively coupled plasma-atomic emission spectrometry (ICP-AES). Spectrophotometric determination with azomethine-H is more labour intensive than ICP-AES method (EN 16963) but the method is reliable and relatively inexpensive and it is an option when ICP-AES is not available.

The spectrophotometric determination can be influenced by iron and more attention is necessary also to organic matter removal and interferences from extract colour. The procedure for removal of organic matter from the extracts is given in EN 16962.

WARNING — Persons using this European Standard should be familiar with normal laboratory practice. This European Standard does not purport to address all of the safety issues, if any, associated with its use. It is the responsibility of the user to establish appropriate health and safety practices and to ensure compliance with any national regulatory conditions.

IMPORTANT — It is absolutely essential that tests conducted according to this European Standard are carried out by suitably trained staff.

1 Scope

This European Standard specifies a method for the determination of total and water extractable boron in mineral fertilizers containing less than or equal to 10 % boron. The method is not suitable for fertilizers with Fe concentrations more than twenty times higher than the concentration of boron.

This method is applicable to water and aqua regia fertilizer extracts obtained according to EN 16962 and/or EN 16964.

The method can also be used for the determination of boron in mineral fertilizers containing more than 10 % boron after appropriate dilution of the extracts.

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 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 16962, *Fertilizers - Extraction of water soluble micro-nutrients in fertilizers and removal of organic compounds from fertilizer extracts*

EN 16964, *Fertilizers - Extraction of total micro-nutrients in fertilizers using aqua regia*

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

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