

**Fertilizers - Determination of trace elements -
Determination of chromium(VI) by photometry (method
A) and by ion chromatography with spectrophotometric
detection (method B)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 16318:2013 sisaldab Euroopa standardi EN 16318:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 16318:2013 consists of the English text of the European standard EN 16318:2013.
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.
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English Version

Fertilizers - Determination of trace elements - Determination of chromium(VI) by photometry (method A) and by ion chromatography with spectrophotometric detection (method B)

Engrais - Dosage des éléments traces - Dosage du chrome (VI) par spectrophotométrie (méthode A) et chromatographie ionique avec détection spectrophotométrique (méthode B)

Düngemittel - Bestimmung von Elementspuren - Bestimmung von Chrom(VI) mit Photometrie (Verfahren A) und mit Ionenchromatographie mit spektrometrischer Detektion (Verfahren B)

This European Standard was approved by CEN on 15 September 2013.

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Foreword

This document (EN 16318:2013) 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of an identical text or by endorsement, at the latest by April 2014, and conflicting national standards shall be withdrawn at the latest by April 2014.

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

This document supersedes CEN/TS 16318:2012.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

The following changes have been made to the former edition:

- the CEN Technical Specification has been adopted as a European Standard;
- a reference to Annex A has been added to Clause 7 concerning the results of inter-laboratory tests on the precision of method A;
- the statistical results of an inter-laboratory test performed by the Technical Group Fertilizers of the German VDLUFA have been added as Annex A (informative);
- the results of a validation study with spiked water samples have been added as Annex B (informative);
- the document has been editorially revised.

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1 Scope

This European Standard specifies two methods for the determination of the content of soluble chromate in fertilizers.

Method A specifies the determination of chromate after extraction with water by photometry. This method can be used to determine Cr(VI)-mass fractions in solids higher than 1 mg/kg.

Method B specifies the determination of chromate by alkaline digestion and ion chromatography with spectrophotometric detection. This method can be used to determine Cr(VI)-mass fractions in solids higher than 0,1 mg/kg.

NOTE In case of reducing or oxidizing fertilizer matrix, no valid Cr(VI) content can be reported.

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 12944-1:1999, *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*

EN 15192:2006, *Characterisation of waste and soil — Determination of Chromium(VI) in solid material by alkaline digestion and ion chromatography with spectrophotometric detection*

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

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.

4 Sampling and sample preparation

Sampling is not part of the methods specified in this European Standard. A recommended sampling method is given in EN 1482-1 [2].

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

Reasonable precautions have to be taken to prevent oxidation of chromate present in the sample. Samples shall be taken using appropriate devices and placed in containers that do not contain stainless steel (e.g. plastic, glass).

After digestion, the sample shall be analyzed as soon as possible.