Inorganic fertilizers - Determination of nitrogen content in IBDU (isobutylidenediurea) and CDU (crotonylidenediurea)

EVS EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 17864:2023 sisaldab Euroopa standardi EN 17864:2023 ingliskeelset teksti.	This Estonian standard EVS-EN 17864:2023 consists of the English text of the European standard EN 17864:2023.
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 and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 13.12.2023.	Date of Availability of the European standard is 13.12.2023.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English Version

Inorganic fertilizers - Determination of nitrogen content in IBDU (isobutylidenediurea) and CDU (crotonylidenediurea)

Engrais inorganiques - Détermination de la teneur en azote dans l'IBDU (isobutylidène diurée) et la CDU (crotonylidène diurée)

Anorganische Düngemittel - Bestimmung des Stickstoffgehalts in IBDU (Isobutylidendiharnstoff) und CDU (Crotonylidendiharnstoff)

This European Standard was approved by CEN on 27 November 2023.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 10 January 2024.

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

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European foreword

This document (EN 17864:2023) 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of an identical text or by endorsement, at the latest by June 2024, and conflicting national standards shall be withdrawn at the latest by June 2024.

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, together with EN 15705:2023, supersedes EN 15705:2010.

In comparison with EN 15705:2010, the following technical modifications have been made:

— EN 15705:2010 is split into two documents:

  — Method A of EN 15705:2010 is given in this document;

  — Method B of EN 15705:2010 is transferred to EN 15705:2023.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

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.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

1 Scope

This document specifies a method for the determination of nitrogen content in IBDU (isobutylidenediurea) and CDU (crotonylidenediurea) using high-performance liquid chromatography (HPLC).

The method is applicable to all fertilizers which do not contain interfering organic compounds.

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 — Vocabulary — Part 1: General terms*

EN 12944-2, *Fertilizers and liming materials — 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 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

The sample is extracted with water and, after appropriate dilution, analyzed using a suitable HPLC system.

5 Reagents

Use only reagents of recognized analytical grade and distilled or demineralized water, free from carbon dioxide and all nitrogenous compounds and having an electric conductivity < 0,5 mS/m.

5.1 Acetonitrile, HPLC-grade.

5.2 Isobutylidenediurea (IBDU), in pure form, as standard.

5.3 Crotonylidenediurea (CDU), in pure form, as standard.

5.4 Eluent, acetonitrile + water (10 + 90, *V* + *V*).

Mix 100,0 ml of acetonitrile (5.1) with 900,0 ml of water and homogenize well.

6 Apparatus and equipment

Usual laboratory glassware and equipment and, in particular, the following.