Uorganisk gødning – Bestemmelse af methylen-urea-oligomerer ved hjælp af HPLC

Inorganic fertilizers – Determination of methylen-urea oligomers using high-performance liquid chromatography (HPLC)

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European foreword

This document (EN 15705:2023) 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of an identical text or by endorsement, at the latest by June 2024, and conflicting national standards shall be withdrawn at the latest by June 2024.

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This document, together with EN 17864:2023, 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 EN 17864:2023;

  — Method B of EN 15705:2010 is given in this document.

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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1 Scope

This document specifies a method for the determination of methylen-urea (MU) oligomers in inorganic fertilizers using high-performance liquid chromatography (HPLC).

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

NOTE By the condensation of urea and formaldehyde, several oligomers are formed, such as methylen–diurea (MDU), dimethylen-triurea (DMTU), trimethylen-tetraurea (TMTU) and higher oligomers. The three molecules named here are the most soluble in water, while the higher compounds are insoluble in hot water, but their nitrogen is available for plants by microbiological decomposition. Also, urea is always a companion of MU-oligomers.

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*