

**Väetised. N-(1,2-dikarboksüetüül) D, L asparthappe
(Imini-di-merevaikhappe, IDHA) sisalduse määramine
kõrgefektiivse vedelikkromatograafiaga (HPLS)**

Fertilizers - Determination of N-(1,2-dicarboxyethyl)-D,L-aspartic acid (Iminodisuccinic acid, IDHA) using high-performance liquid chromatography (HPLC)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 15950:2010 sisaldab Euroopa standardi EN 15950:2010 ingliskeelset teksti.

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English Version

Fertilizers - Determination of N-(1,2-dicarboxyethyl)-D,L-aspartic acid (Iminodisuccinic acid, IDHA) using high-performance liquid chromatography (HPLC)

Engrais - Dosage de l'acide N-(1,2-dicarboxyéthyl)-D,L-aspartique (acide iminodisuccinique, IDHA) par chromatographie liquide haute performance (HPLC)

Düngemittel - Bestimmung von N-(1,2-Dicarboxyethyl)-D,L-asparaginsäure (Iminodibernsteinsäure, IDHA) mit Hochleistungs-Flüssigchromatographie (HPLC)

This European Standard was approved by CEN on 4 September 2010.

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Foreword

This document (EN 15950:2010) 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of an identical text or by endorsement, at the latest by April 2011, and conflicting national standards shall be withdrawn at the latest by April 2011.

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1 Scope

This European Standard specifies a method for the determination of N-(1,2-dicarboxyethyl)-D,L-aspartic acid (Iminodisuccinic acid (IDHA)) in fertilizers.

The method is applicable to all fertilizers containing IDHA as chelating agent for contents > 0,5 % (g/100 g).

2 Normative references

The following referenced documents are indispensable for the application 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 12944-1:1999, *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 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 12944-1:1999 and EN 12944-2:1999 apply.

4 Principle

IDHA is extracted with water, and measured and detected by reversed phase HPLC using UV detection at 260 nm after total conversion of the chelating agent into its iron-(III)-chelate by adding an excess of a solution of iron-(III)-nitrate (details see Clause 8 and the following). In the HPLC-chromatogram IDHA is represented by two dominant peaks, the first one representing the R,S-isomer (50 %), and the second one representing the R,R- as well as the S,S-isomer (each 25 %).

5 Interferences

Other chelating agents such as DTPA, o,o-EDDHA or o,p-EDDHA do not interfere the determination of IDHA. EDTA may interfere with the determination of IDHA with some equipment, especially with certain columns in the HPLC-equipment (see Table A.2).

6 Reagents

Use only reagents of recognized analytical grade.

6.1 Water, distilled or demineralized (grade 1 according to EN ISO 3696:1995).

6.2 Tetra-n-butylammonium hydrogen sulfate (C₁₆H₃₇NO₄S), for ion pair chromatography.