



NSAI
Standards

Irish Standard
I.S. EN 15452:2008

Fertilizers - Determination of chelating agents - Determination of iron chelated by o,p-EDDHA by reversed phase HPLC

I.S. EN 15452:2008

Incorporating amendments/corrigenda issued since publication:

<i>This standard replaces:</i> S.R. CEN/TS 15452:2006	<i>This standard is based on:</i> EN 15452:2008 CEN/TS 15452:2006	<i>Published:</i> 9 July, 2008 12 December, 2006
This Irish Standard was published under the authority of the NSAI and comes into effect on: 18 August, 2008		ICS number: 65.080
NSAI 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	Sales: T +353 1 857 6730 F +353 1 857 6729 W standards.ie
Price Code: F		
Údarás um Chaighdeáin Náisiúnta na hÉireann		

I.S. EN 15452:2008

EUROPEAN STANDARD

EN 15452

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2008

ICS 65.080

Supersedes CEN/TS 15452:2006

English Version

Fertilizers - Determination of chelating agents - Determination of iron chelated by o,p-EDDHA by reversed phase HPLC

Engrais - Dosage des agents chélatants - Dosage du fer chélaté par o,p-EDDHA par chromatographie liquide à haute performance à polarité de phase inversée

Düngemittel - Bestimmung von Chelatbildnern - Bestimmung von Eisen-chelatisiertem o,p-EDDHA mit Umkehrphasen HPLC

This European Standard was approved by CEN on 30 May 2008.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Foreword	3
1 Scope	4
2 Normative references	4
3 Principle	4
4 Interferences	4
5 Reagents	4
6 Apparatus	5
7 Sampling and sample preparation	6
8 Procedure	6
9 Expression of results	8
10 Precision	8
11 Test report	9
Annex A (informative) Typical chromatogram	10
Annex B (informative) Statistical results of the inter-laboratory test	11
Annex C (informative) Complete names of chelating agents	12
Bibliography	13

Foreword

This document (EN 15452:2008) 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 January 2009, and conflicting national standards shall be withdrawn at the latest by January 2009.

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 15452:2006.

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

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

1 Scope

This European Standard specifies a method for the chromatographic determination of the amount of iron chelated by each of the individual isomers of the chelating agent ortho-para EDDHA (o,p-EDDHA) in fertilizers. The method allows the identification of this chelating agent and the determination of the water soluble fraction of iron chelated by this chelating agent. The method is not applicable for the determination of the amount of free chelating agent.

NOTE 1 This method has been shown to be also suitable for the determination of the amount of iron chelated by each of the individual isomers of the chelating agent ortho-ortho EDDHA (o,o-EDDHA) in fertilizers.

NOTE 2 o,o-EDDHA and o,p-EDDHA are abbreviations used in this European Standard for the sake of simplicity. For complete names see Annex C.

NOTE 3 The substances o,o-EDDHA and o,p-EDDHA both exist as different stereoisomers. For o,o-EDDHA a meso form and a d/l pair (the racemic isomers) exist, for o,p-EDDHA two different d/l pairs exist. All four stereoisomers are observed separately in this method.

NOTE 4 Currently, an analytically pure standard only exists for o,o-EDDHA. The method for o,p-EDDHA has been developed with an o,p-EDDHA standard containing an uncertain concentration of o,p-EDDHA.

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*

3 Principle

The technique used is reversed phase HPLC with UV detection at 277 nm. The sample is separated on a silica-based reversed phase column using sodium formate, $c = 0,015 \text{ mol/l}$, $\text{pH} = 3,0$, and acetonitrile as mobile phase.

For both o,p-EDDHA and o,o-EDDHA, two stereoisomer peaks are observed.

The concentration of iron chelated by o,p-EDDHA (o,p-Fe) is determined according to the external standard method.

4 Interferences

No interferences have been detected. Iron chelates with EDTA, HEDTA, DTPA and EDDHMA do not interfere.

5 Reagents

5.1 General

a) All reagents shall be of recognized analytical grade.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-