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English Version

Fertilizers and liming materials - Determination of arsenic by inductively coupled plasma-atomic emission spectrometry (ICP-AES) after aqua regia dissolution

Engrais et amendements minéraux basiques -
Détermination de l'arsenic par spectrométrie d'émission
atomique avec plasma induit par haute fréquence (ICP-
AES) après digestion à l'eau régale

Düngemittel und Kalkdünger - Bestimmung von Arsen mit
Atomemissionsspektrometrie mit induktiv gekoppeltem
Plasma (ICP-AES) nach Königswasseraufschluss

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 260.

This draft amendment A1, if approved, will modify the European Standard EN 16317:2013. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 16317:2013/prA1:2015) has been prepared by Technical Committee CEN/TC 260 "Fertilizers and liming materials", the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

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

EN 16317:2013/prA1:2015 (E)**1 Modification to the Title**

Delete "Determination of trace elements" and insert "liming materials" after "fertilizers" to read the title as follows:

"Fertilizers and liming materials — Determination of arsenic by inductively coupled plasma-atomic emission spectrometry (ICP-AES) after aqua regia dissolution".

2 Modifications to Clause 1, Scope

Replace the first sentence with the following sentence:

"This European Standard specifies a method for the determination of the content of arsenic in fertilizers and liming materials using inductively coupled plasma-atomic emission spectrometry (ICP-AES) after aqua regia dissolution."

Add the following NOTE after the last sentence:

"NOTE The term fertilizer is used throughout the body of this European Standard and includes liming materials unless otherwise indicated."

3 Modification to Clause 2, Normative references

Insert the following reference after EN 12944-2:1999:

"EN 12944-3:2001, *Fertilizers and liming materials and soil improvers — Vocabulary — Part 3: Terms relating to liming materials*".

4 Modification to Clause 3, Terms and definitions

Replace 1st sentence with:

"For the purposes of this document, the terms and definitions given in EN 12944-1:1999, EN 12944-2:1999 and EN 12944-3:2001 apply."

5 Modification to Clause 10, Precision, Table 2

Insert after the 2nd line the data for liming material samples:

"

Sample	\bar{x}	r	R
	mg/kg	mg/kg	mg/kg
Dolomitic Limestone	3,027	0,207	0,791
Burnt Lime	1,516	0,091	1,035
Converter Lime	2,138	0,228	1,987

".

6 Modification to A.1, Inter-laboratory tests

Add a 2nd paragraph after the 1st paragraph as follows:

"The precision of the method has been determined in one inter-laboratory trials carried out on two samples of mineral fertilizers and carried out on three samples of liming materials. The statistical results for mineral fertilizer samples are given in Table A.1 and for liming materials in Table A.2."

7 Modifications to A.2, Statistical results for the determination of arsenic by ICP-AES

Replace the title of Table A.1 with:

"Statistical results for arsenic for mineral fertilizers".

Insert after Table A.1 a new Table A.2 as follows:

"Table A.2 — Statistical results for arsenic for liming materials

Parameter	Dolomitic Limestone	Burnt Lime	Converter Lime
Year of the test	2013	2013	2013
Number of laboratories	9	6	6
Number of laboratories retained after elimination of outliers	9	5	6
Number of outliers	0	1	1
Mean value, \bar{x} (mg/kg)	3,027	1,516	2,138
Repeatability standard deviation s_r (mg/kg)	0,207	0,091	0,228
Relative repeatability standard deviation $RSD_r(\%)$	6,84	5,98	10,65
Repeatability limit r [$r = 2,8 \times s_r$] (mg/kg)	0,580	0,255	0,638
Reproducibility standard deviation s_R (mg/kg)	0,791	1,035	1,987
Relative reproducibility standard deviation $RSD_R(\%)$	26,12	68,26	92,95
Reproducibility limit R [$R = 2,8 \times s_R$] (mg/kg)	2,215	2,90	5,564