Välisõhu kvaliteet. Standardmeetod arseeni, kaadmiumi, plii ja nikli sisalduse määramiseks õhust sadestunud aines

Ambient air quality - Standard method for determination of arsenic, cadmium, lead and nickel in atmospheric deposition

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 15841:2010 sisaldab Euroopa standardi EN 15841:2009 ingliskeelset teksti.	This Estonian standard EVS-EN 15841:2010 consists of the English text of the European standard EN 15841:2009.
Standard on kinnitatud Eesti Standardikeskuse 31.01.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 31.01.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 18.11.2009.	Date of Availability of the European standard text 18.11.2009.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

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EUROPEAN STANDARD

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English Version

Ambient air quality - Standard method for determination of arsenic, cadmium, lead and nickel in atmospheric deposition

Qualité de l'air ambiant - Méthode normalisée pour la détermination des dépots d'arsenic, de cadmium, de nickel et de plomb

Luftbeschaffenheit - Messverfahren zur Bestimmung von Arsen, Kadmium, Blei and Nickel in atmosphärischer Deposition

This European Standard was approved by CEN on 17 October 2009.

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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.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword

This document (EN 15841:2009) has been prepared by Technical Committee CEN/TC 264 “Air quality”, 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 May 2010, and conflicting national standards shall be withdrawn at the latest by May 2010.

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For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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 three methods for the determination of deposition of arsenic (As), cadmium (Cd) nickel (Ni) and lead (Pb), that can be used in the framework of the European Council Directive on Ambient Air Quality Assessment and Management [1] and the 4th Air Quality Daughter Directive [2]. This European Standard specifies performance requirements with which the method has to comply in order to meet the data quality objectives given in the Directives. The performance characteristics of the method were determined in comparative field validation tests carried out at four European locations [3].

This European Standard specifies methods for sampling wet-only and bulk deposition of As, Cd, Ni and Pb, sample treatment and analysis by graphite furnace atomic absorption spectrometry (GF-AAS) or by inductively coupled plasma mass spectrometry (ICP-MS).

The method is applicable for deposition measurements in

a) rural and remote areas;

b) industrial areas;

c) urban areas.

The standard is validated for the working ranges listed in Table 1.

Table 1 — Validated working ranges for the methods

	Lower limit (µg/m² day)	**Upper limit** (µg/m² day)
As	0,05	2
Cd	0,01	1
Ni	0,05	25
Pb	0,1	65

NOTE The ranges given are based upon the values measured in the field validation test. The upper and lower limits are the observed minimum and maximum values measured during the field validation tests. The actual lower limits of the working ranges depend on the variability of the laboratory blank and the precipitation amount range in bulk and wet-only.

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 14902:2005, *Ambient air quality – Standard method for the measurement of Pb, Cd, As and Ni in the PM10 fraction of suspended particulate matter*

EN ISO 20988:2007, *Air quality – Guidelines for estimating measurement uncertainty (ISO 20988:2007)*

ISO 5725-2, *Accuracy (trueness and precision) of measurement method and results – Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method*