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I.S. EN 15853:2010

Ambient air quality - Standard method for the determination of mercury deposition

I.S. EN 15853:2010

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English Version

Ambient air quality - Standard method for the determination of mercury deposition

Qualité de l'air ambiant - Méthode normalisée pour la détermination des dépôts de mercure

Außenluftbeschaffenheit - Standardisiertes Verfahren zur Bestimmung der Quecksilberdeposition

This European Standard was approved by CEN on 5 May 2010.

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.

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Foreword

This document (EN 15853:2010) 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of an identical text or by endorsement, at the latest by December 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

There are currently only European Standard methods for the determination of the mercury concentration in water samples (EN ISO 17852, *Water quality — Determination of mercury — Method using atomic fluorescence spectrometry (ISO 17852:2006)* and EN 1483, *Water quality — Determination of mercury — Method using atomic absorption spectrometry*) but no standard method exists for the determination of mercury in precipitation, though OSPAR/EMEP reference methods are currently available for mercury in precipitation.

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, Croatia, 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 determination of the total deposition of mercury. This standard can be used within the framework of the European Council Directive on Ambient Air Quality Assessment and Management and Directive 2004/107/EC. Performance requirements with which the method should comply are specified in this European Standard. The performance characteristics of the method were determined in comparative field validation tests carried out at two European locations.

This European Standard is applicable to background sites that are in accordance with the requirements of Directive 2004/107/EC and to urban and industrial sites.

This standard allows the sampling of deposition using cylindrical deposition gauges, and analysis using Cold Vapour Atomic Absorption Spectrometry (CVAAS) or Cold Vapour Atomic Fluorescence Spectrometry (CVAFS) following existing harmonised and standardised procedures. The standard is applicable for the measurement of mercury in deposition between 1 ng/(m²·d) and 100 ng/(m²·d).

The standard is validated for the deposition range listed in Table 1.

Table 1 — Working range of this standard method

Working range ng/(m ² ·d)	
Lower limit	Upper limit
1	100

NOTE The range given is 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 range depends on the variability of the laboratory blank, for bulk and wet-only collectors, and the precipitation. The method can be applied to higher and lower deposition rates provided that the collection characteristics are not compromised.

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.

ENV 13005, *Guide to the expression of uncertainty in measurement*

CR 14377, *Air quality — Approach to uncertainty estimation for ambient air reference measurement methods*

EN ISO 17852, *Water quality — Determination of mercury — Method using atomic fluorescence spectrometry (ISO 17852:2006)*

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

3 Terms, definitions and abbreviations

For the purposes of this document, the following terms, definitions and abbreviations apply.

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