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I.S. EN 15852:2010

Ambient air quality - Standard method for the determination of total gaseous mercury

I.S. EN 15852:2010

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English Version

Ambient air quality - Standard method for the determination of total gaseous mercury

Qualité de l'air ambiant - Méthode normalisée pour la détermination du mercure gazeux total

Außenluftbeschaffenheit - Standardisiertes Verfahren zur Bestimmung des gesamten gasförmigen Quecksilbers

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

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Contents

Page

Foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Symbols and abbreviated terms	8
4.1 Symbols	8
4.2 Abbreviations	11
5 Principle.....	11
6 Requirements	12
6.1 Siting criteria	12
6.2 Method requirements	12
6.3 Method detection limit.....	12
6.4 Field operation and quality control.....	12
7 Reagents	12
8 Apparatus	13
8.1 Sampling equipment	13
8.2 Analytical instrumentation.....	13
8.3 Calibration equipment	13
9 Sampling considerations	14
9.1 Inlet location.....	14
9.2 Sampling inlet and sampling line.....	14
9.3 Measurement time	15
10 Measurement procedure	16
10.1 Calibration with AFS/AAS	16
10.2 Calibration with Zeeman AAS.....	17
11 Quality control.....	17
11.1 Calibration robustness check	17
11.2 Zero gas check.....	18
11.3 Degradation of gold traps	18
11.4 Proficiency testing scheme	18
11.5 Accreditation	18
11.6 Measurement uncertainty	18
12 Calculation of results	18
12.1 General.....	18
12.2 Calculation of TGM concentrations to reference conditions	19
12.3 Method detection limit.....	20
12.4 Repeatability.....	20
12.5 Drift in instrument sensitivity	21
13 Estimation of the measurement uncertainty method and performance criteria	21
13.1 Introduction	21
13.2 Assessment against target measurement uncertainty for individual laboratories	22
13.3 Use of uncertainties in reporting of results	23
14 Performance characteristics determined in field tests.....	24
15 Interferences	24

15.1	General	24
15.2	Mercury analyser based on amalgamation and CVAAS or CVAFS.....	24
15.3	Mercury analyser based on Zeeman AAS.....	25
16	Reporting of results	25
Annex A	(informative) Sampling sites	26
Annex B	(informative) Manual method TGM	27
Annex C	(informative) Summary of field validation tests	29
Annex D	(informative) Characteristics of the mercury vapour source.....	34
Annex E	(informative) Calibration	37
Annex F	(informative) Assessment against target uncertainty by an individual laboratory.....	38
Annex G	(informative) Relationship between this European Standard and the Essential Requirements of EU Directives.....	44
Bibliography	45

Foreword

This document (EN 15852:2010) 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.

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1 Scope

This European Standard specifies a standard method for determining total gaseous mercury (TGM) in ambient air using cold vapour atomic absorption spectrometry (CVAAS), or cold vapour atomic fluorescence spectrometry (CVAFS).

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.

The performance characteristics of the method have been determined in comparative field validation tests carried out at four European locations: two background and two industrial sites. The method was tested for two months at each site over a period of twelve months using automated equipment currently used in Europe for determination of TGM in ambient air.

The working range of the method covers the range of ambient air concentrations from those found at background sites, typically less than 2 ng/m^3 , up to those found at industrial sites where higher concentrations are expected. A maximum daily average up to 300 ng/m^3 was measured during the field trials.

Results are reported as the average mass of TGM per volume of air at 293,15 K and 101,325 kPa, measured over a specified time period, in nanograms per cubic metre.

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

ISO 5725-2:1994, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of the trueness of a standard measurement method*

ISO 8573-1:2010, *Compressed air — Part 1: Contaminants and purity classes*

3 Terms and definitions

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

3.1

ambient air

outdoor air in the troposphere, excluding workplace air

3.2

calibration

operation that, under specified conditions, in a first step, establishes a relation between the quantity values with measurement uncertainties provided by measurement standards and corresponding indications with associated measurement uncertainties and, in a second step, uses this information to establish a relation for obtaining a measurement result from an indication

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