

Stationary source emissions - Determination of mass concentration of gaseous chlorides expressed as HCl - Standard reference method

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Stationary source emissions - Determination of mass concentration of gaseous chlorides expressed as HCl - Standard reference method

Emissions de sources fixes - Détermination de la concentration massique en chlorures gazeux, exprimée en HCl - Méthode de référence normalisée

Emissionen aus stationären Quellen - Bestimmung der Massenkonzentration von gasförmigen Chloriden, angegeben als HCl - Standardreferenzverfahren

This European Standard was approved by CEN on 26 June 2010.

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Foreword

This document (EN 1911:2010) 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of an identical text or by endorsement, at the latest by February 2011, and conflicting national standards shall be withdrawn at the latest by February 2011.

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 EN 1911-1:1998, EN 1911-2:1998 and EN 1911-3:1998.

Annex E provides details of significant technical changes between this European Standard and the previous edition.

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.

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Introduction

This European Standard describes the Standard Reference Method (SRM) with three alternative analytical techniques for determining gaseous chlorides content emitting to atmosphere from ducts and stacks. The specific components and the requirements for the measuring system are described. A number of performance characteristics with associated minimum performance criteria are specified for the measuring system (see Tables 1 and 2 in 3.2). This European Standard can be used as an SRM provided the overall uncertainty of the method is less than 30,0 % relative at the daily Emission Limit Value (ELV) for incineration and large combustion plants or at the ELV prescribed by the specific regulations for other plants.

An Alternative Method to this SRM may be used provided that the user can demonstrate equivalence according to CEN/TS 14798.

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1 Scope

The method described in this European Standard determines the concentration of chlorinated compounds in a flue gas that – after passage of the sampling system including a particle filter – give Cl⁻ ions in the absorption solution. This Standard Reference Method has been evaluated during field tests on waste incineration. The method applies to waste gases in which chlorides concentration expressed as HCl may vary between 1 mg·m⁻³ and 5 000 mg·m⁻³ under normal pressure and temperature conditions (see Note 1), and according to emission limit values laid down, for example, in the Council Directive 2000/76/EC on waste incineration plants.

NOTE 1 The limit values of this European Standard are expressed in mg HCl/m³, on dry basis, at the reference conditions of 273 K and 101,3 kPa and at the reference O₂ concentration.

NOTE 2 The required uncertainty results from the capacity of the method tested in the field (Annex D) and in the laboratory (see performance characteristics in Tables 1 and 2 and Annex C).

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 13284-1:2001, *Stationary source emissions — Determination of low range mass concentration of dust — Part 1: Manual gravimetric method*

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

EN 15259:2007, *Air quality — Measurement of stationary source emissions — Requirements for measurement sections and sites and for the measurement objective, plan and report*

EN ISO 3696:1995, *Water for analytical laboratory use — Specification and test methods (ISO 3696:1987)*

EN ISO 10304-1, *Water quality — Determination of dissolved anions by liquid chromatography of ions — Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulfate (ISO 10304-1:2007)*

EN ISO 14956, *Air quality — Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty (ISO 14956:2002)*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

3.1.1

absorber

device in which gaseous chloride is absorbed into an absorption solution

3.1.2

chemical blank

chloride ion content of an unexposed sample of the absorption solution, plus reagents that are added to the solution before analysis if necessary