

Stationary source emissions - Reference method for the determination of the concentration of gaseous hydrogen chloride (HCl) in waste gases emitted by industrial installations into the atmosphere

EESTI STANDARDI EESSÕNA

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EUROPEAN STANDARD

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Supersedes CEN/TS 16429:2013

English Version

Stationary source emissions - Reference method for the determination of the concentration of gaseous hydrogen chloride (HCl) in waste gases emitted by industrial installations into the atmosphere

Émissions de sources fixes - Méthode de référence pour la détermination de la concentration de chlorure d'hydrogène gazeux (HCl) dans les effluents gazeux émis dans l'atmosphère par des installations industrielles

Emissionen aus stationären Quellen - Referenzverfahren zur Bestimmung der Konzentration von gasförmigem Chlorwasserstoff (HCl) in Abgasen, die von Industrieanlagen in die Atmosphäre emittiert werden

This European Standard was approved by CEN on 1 February 2021.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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European foreword

This document (EN 16429:2021) 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of an identical text or by endorsement, at the latest by September 2021, and conflicting national standards shall be withdrawn at the latest by September 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TS 16429:2013.

List of significant technical changes compared to CEN/TS 16429:2013:

- Clause 6 "Analyser equipment": The description of the analyser equipment has been replaced by the reference to performance criteria given in EN 15267-4.
- The informative Annex "Examples of schematics of non-dispersive infrared spectrometer" was deleted.
- The informative Annex "Validation of the method in the field" was added. EN 16429 has been validated during field tests on a test bench, on a waste incineration plant and a large combustion plant for HCl concentrations with sampling periods of 30 min in the range of 2,5 mg/m³ to 61 mg/m³. The characteristics of installations, the conditions during field tests and the values of repeatability and reproducibility in the field are given in Annex C.

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

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The European Commission (EC) has charged the European Committee for Standardization (CEN) to elaborate this new standard (with Mandate M/513 of January 2013). The work was allocated to CEN/TC 264 "Air quality"/WG 3, who has prepared this document.

This document has been validated during field tests on a test bench, on a waste incineration plant and a large combustion plant for HCl concentrations with sampling periods of 30 min in the range of 2,5 mg/m³ to 61 mg/m³. Directive 2010/75/EU lays down emission values which are expressed in mg/m³, on dry basis at a specified value of oxygen and at standard conditions (273 K and 101,3 kPa).

NOTE The characteristics of installations, the conditions during field tests and the values of repeatability and reproducibility in the field are given in Annex C.

1 Scope

This document specifies the standard reference method (SRM) based on an automatic method for determination of the mass concentration of hydrogen chloride (HCl) in ducts and stacks emitting to the atmosphere. It describes the sampling and gas conditioning system.

This document specifies the characteristics to be determined and the performance criteria to be fulfilled by portable automated measuring systems (P-AMS) using the infrared measurement method. It applies for periodic monitoring and for the calibration or control of automated measuring systems (AMS) permanently installed on a stack, for regulatory or other purposes.

The infrared measurement method described in this document can be used as a SRM, provided the expanded uncertainty of the method is less than 20 % relative at the daily Emission Limit Value (ELV), or 1 mg/m³ for ELV below 5 mg/m³, and the criteria associated to performance characteristics described in EN 15267-4 for portable automated measuring systems (P-AMS), are fulfilled.

This document specifies criteria for demonstration of equivalence of an alternative method (AM) to the SRM by application of EN 14793.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 14793, *Stationary source emissions — Demonstration of equivalence of an alternative method with a reference method*

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 15267-3:2007, *Air quality — Certification of automated measuring systems — Part 3: Performance criteria and test procedures for automated measuring systems for monitoring emissions from stationary sources*

EN 15267-4:2017, *Air quality — Certification of automated measuring systems — Part 4: Performance criteria and test procedures for automated measuring systems for periodic measurements of emissions from stationary sources*

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

CEN/TS 17337, *Stationary source emissions — Determination of mass concentration of multiple gaseous species — Fourier transform infrared spectroscopy*

ISO/IEC Guide 98-3:2008, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>