

**Heitmed püsiallikatest. Käsitsimeetod  
HCl määramiseks. Osa 3: Absorbendi  
lahuse analüüsimine ja tulemuse  
arvutamine**

Stationary source emissions - Manual method of  
determination of HCl - Part 3: Absorption solutions  
analysis and calculation

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

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| <p>Käesolev Eesti standard EVS-EN 1911-3:1999 sisaldab Euroopa standardi EN 1911-3:1998 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 12.12.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p> | <p>This Estonian standard EVS-EN 1911-3:1999 consists of the English text of the European standard EN 1911-3:1998.</p> <p>This document is endorsed on 12.12.1999 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p> |
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| <p><b>Käsitlusala:</b><br/>Käesolev Euroopa standard määrab kindlaks meetodid heitgaasides sisalduva vesinikkloriidi absorptsioonil saadud kloriidide analüüsimiseks vastavalt normdokumendile EN 1911-2.<br/>Heitgaaside proovide võtmisel ja filtreerimisel tuleb lähtuda normdokumendist EN 1911-1.</p> | <p><b>Scope:</b></p> |
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**ICS** 13.040.40

**Võtmesõnad:** absorptsioon, arvutamine, emissioon, gaasianalüüs, heitgaasid, kvaliteet, sisalduse määramine, vesinikkloriidhape, õhk, õhu saastumine

ICS 13.040.40

Descriptors: Air quality, HCl, emission, analysis.

**English version**

**Stationary source emissions – Manual method  
of determination of HCl**

**Part 3: Absorption solutions analysis and calculation**

Emissions de sources fixes – Mé-  
thode manuelle de dosage du HCl –  
Partie 3: Analyse des solutions  
d'absorption et calculs

Emissionen aus stationären Quellen –  
Manuelle Methode zur Bestimmung  
von HCl – Teil 3: Analyse der  
Absorptionslösungen und Berech-  
nung der Ergebnisse

This European Standard was approved by CEN on 1998-03-23.

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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

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## Foreword

This European Standard 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 month of October 1998, and conflicting national standards shall be withdrawn at the latest by month of October 1998.

The determination of gaseous hydrogen chloride emissions <sup>1)</sup> from stationary sources by a manual method is divided in three parts described in the following standards :

- |           |   |
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| EN 1911-1 | Stationary source emissions - Manual method of determination of HCl - Part 1 : Sampling of gases                              |
| EN 1911-2 | Stationary source emissions - Manual method of determination of HCl - Part 2 : Gaseous compounds absorption                   |
| EN 1911-3 | Stationary source emissions - Manual method of determination of HCl - Part 3 : Absorption solutions analysis and calculations |

This standard is an integral part of a complete measurement procedure and the use of the two other parts is necessary for determination of hydrogen chloride.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

<sup>1)</sup> In this standard no distinction is made between hydrogen chloride and hydrochloric acid.

## 1 Scope

This European standard specifies methods for analysis of chlorides resulting from hydrogen chloride absorption, according to EN 1911-2, in waste gases having been sampled and filtered according to EN 1911-1.

All compounds which are volatile at the filtration temperature and produce chloride ions upon dissolution during sampling are measured by this method, which gives therefore the volatile inorganic chlorides content of gases expressed as HCl. In most cases, this corresponds to the hydrogen chloride content ; an indicative distinction between hydrogen chloride and volatile chlorides may be achieved, using additional checks.

This standard specifies also validation criteria for the whole HCl measurement method described in EN 1911-1, EN 1911-2 and EN 1911-3, and indicates the performance characteristics of this measurement method.

## 2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

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| EN 1911-1           | Stationary source emissions - Manual method of determination of HCl - Part 1 : Sampling of gases   |
| EN 1911-2:1998      | Stationary source emissions - Manual method of determination of HCl - Part 2 : Gaseous compounds absorption.   |
| EN ISO 3696:1995    | Water for analytical laboratory use - Specification and test methods (ISO 3696:1987)   |
| EN ISO 10304-1:1995 | Water quality - Determination of dissolved fluoride, chloride, nitrite, orthophosphate, bromide, nitrate and sulfate ions, using liquid chromatography of ions - Part 1 : Method for water with low contamination (ISO 10304-1:1992) |

## 3 Analysis

### 3.1 Introduction

After sampling according to EN 1911- 1 and EN 1911-2, the solutions shall be analysed by one of the following methods :

- silver titration : potentiometric method (Method A) ;
- mercuric-thiocyanate spectrophotometry (Method B) ;
- ion-exchange chromatography (Method C).