

**Ethanol as a blending component for petrol -
Determination of inorganic chloride and sulfate content -
Ion chromatographic method**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 15492 V2:2008 sisaldab Euroopa standardi EN 15492:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 27.10.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 03.09.2008.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 15492 V2:2008 consists of the English text of the European standard EN 15492:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 27.10.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 03.09.2008.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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English Version

Ethanol as a blending component for petrol - Determination of inorganic chloride and sulfate content - Ion chromatographic method

Ethanol comme base de mélange à l'essence - Détermination de la teneur en chlorures minéraux et en sulfates - Méthode par chromatographie ionique

Ethanol zur Verwendung als Blendkomponente in Ottokraftstoff - Bestimmung des Gehaltes an anorganischem Chlor und Sulfat - Ionenchromatographie

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Contents

Page

Foreword.....3

1 Scope4

2 Normative references4

3 Principle4

4 Reagents4

5 Apparatus5

6 Sampling6

7 Preparation of calibration solutions6

8 Preparation of apparatus7

8.1 Setting up the instrument7

8.2 Calibration7

9 Procedure7

9.1 Sample preparation7

9.2 Sample analysis8

10 Calculations.....8

11 Expression of results8

12 Precision8

12.1 General.....8

12.2 Repeatability, *r*9

12.3 Reproducibility, *R*9

13 Test report9

Bibliography10

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Foreword

This document (EN 15492:2008) has been prepared by Technical Committee CEN/TC 19 "Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin", the secretariat of which is held by NEN.

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 March 2009, and conflicting national standards shall be withdrawn at the latest by March 2009.

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.

The method described in this document is based on a method from a European Regulation on wine [1]. This method has been developed to suit the needs as expressed in the ethanol specification [2], also drafted by CEN/TC 19.

This document supersedes EN 15492:2007.

The precision and the range of application for both inorganic chloride and sulfate have been updated based on a interlaboratory study done by CEN/TC 19/WG 27 on "Elemental analysis". Next, only the analytical water grade required has been updated according to general lab practice.

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, 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 an ion chromatographic (IC) method for the determination of the inorganic chloride content in ethanol from 2,0 mg/l to 25,0 mg/l and of the sulfate content in ethanol from 0,9 mg/l to 15,0 mg/l.

NOTE Inorganic chloride content can be determined from 0,8 mg/l to 2,0 mg/l and sulfate content can be determined from 0,4 mg/l to 0,9 mg/l. However, the precision was not established as no samples with chloride and sulfate contents in these ranges were included in the interlaboratory test.

WARNING — Use of this method may involve hazardous equipment, materials and operations. This method does not purport to address to all of the safety problems associated with its use, but it is the responsibility of the user to search and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

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 ISO 1042, *Laboratory glassware — One-mark volumetric flasks (ISO 1042:1998)*

EN ISO 3170, *Petroleum liquids — Manual sampling (ISO 3170:2004)*

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

3 Principle

A test portion of ethanol sample is evaporated on a water bath. The dry residue is dissolved in water. The chloride and sulfate ion contents are determined by comparing the peak area in the chromatogram of the aqueous solution of the test portion with the curve of the calibration standards.

The calibration standards are prepared from suitable compounds in aqueous solution.

4 Reagents

Use only reagents of recognized analytical grade, such as "IC grade", unless otherwise specified.

4.1 Sodium chloride (NaCl), MW 58,44 g/mol.

4.2 Sulfuric acid (H₂SO₄), solution at 0,1 mol/l, of which the concentration is verified by titration, or is certified in case of commercially available product.

4.3 Water, for analytical laboratory use, conforming to grade 2 of EN ISO 3696.

4.4 Eluent compounds:

4.4.1 Sodium carbonate (Na₂CO₃), MW 105,99 g/mol.

4.4.2 Sodium hydrogen carbonate (NaHCO₃), MW 84,01 g/mol.

4.4.3 Potassium hydroxide (KOH), MW 56,11 g/mol.