

SLOVENSKI STANDARD
SIST EN 15721:2026**01-julij-2026****Nadomešča:**
SIST EN 15721:2013

Etanol kot komponenta za dodajanje motornemu bencinu - Določanje višjih alkoholov, metanola ter drugih nečistoč - Metoda plinske kromatografije

Ethanol as a blending component for petrol — Determination of higher alcohols, methanol and other impurities - Gas chromatographic method

Ethanol zur Verwendung als Blendkomponente in Ottokraftstoff - Bestimmung von höheren Alkoholen, Methanol und andere Verunreinigungen - Gaschromatographisches Verfahren

Ethanol comme base de mélange à l'essence — Détermination de la teneur des alcools supérieurs, méthanol et autres impuretés — Méthode par chromatographie en phase gazeuse

Ta slovenski standard je istoveten z: EN 15721:2026**ICS:**

71.040.50	Fizikalnokemijske analitske metode	Physicochemical methods of analysis
71.080.60	Alkoholi. Etri	Alcohols. Ethers
75.160.20	Tekoča goriva	Liquid fuels

SIST EN 15721:2026 **en**

Sample Document

get full document from standards.iteh.ai

EUROPEAN STANDARD

EN 15721

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2026

ICS 75.160.20

Supersedes EN 15721:2013

English Version

Ethanol as a blending component for petrol - Determination of higher alcohols, methanol and other impurities - Gas chromatographic method

Éthanol comme base de mélange à l'essence -
Détermination de la teneur en alcools supérieurs,
méthanol et autres impuretés - Méthode par
chromatographie en phase gazeuse

Ethanol zur Verwendung als Blendkomponente in
Ottokraftstoff - Bestimmung von höheren Alkoholen,
Methanol und andere Verunreinigungen -
Gaschromatographisches Verfahren

This European Standard was approved by CEN on 17 May 2026.

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.

CEN members are the national standards bodies of 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, Türkiye and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

© 2026 CEN All rights of exploitation in any form and by any means reserved
worldwide for CEN national Members.

Ref. No. EN 15721:2026 E

Contents	Page
European Foreword.....	3
Introduction	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions	5
4 Principle	5
5 Reagents and materials.....	6
6 Apparatus.....	6
7 Sampling.....	8
8 Procedure.....	8
8.1 General.....	8
8.2 General considerations for preparation and handling of solutions	9
8.3 Preparation of solutions for Procedure A	9
8.3.1 Calibration stock solution (E) for Procedure A	9
8.3.2 Internal standard stock solution (ES) for Procedure A.....	9
8.3.3 Calibration solution (FS1) for Procedure A	9
8.3.4 Preparation of sample (S) for Procedure A	10
8.4 Preparation of solutions for Procedure B	10
8.4.1 Calibration stock solution (E) for Procedure B	10
8.4.2 Internal standard stock solution (ES) for Procedure B.....	10
8.4.3 Calibration solution (FS1) for Procedure B	10
8.4.4 Preparation of sample (S) for Procedure B	10
8.5 Determination	11
8.5.1 Gas chromatograph analysis conditions.....	11
8.5.2 Determination of response factors.....	12
8.5.3 Recording the chromatogram.....	12
8.5.4 Performance checks.....	12
9 Calculation	12
9.1 Content of individual compounds	12
9.2 Calculation of group contents	13
9.3 Expression of results.....	13
10 Precision.....	14
10.1 General.....	14
10.2 Repeatability.....	14
10.3 Reproducibility	14
11 Test report.....	15
Annex A (informative) Examples of chromatograms	16
Bibliography.....	22

European foreword

This document (EN 15721:2026) 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 January 2027, and conflicting national standards shall be withdrawn at the latest by January 2027.

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 will supersede EN 15721:2013, and includes the following significant technical changes with respect to that edition:

- the requirement to use self-determined response factors in the calculation (9.1) for all components, whereas recommendations are given for the commonly used denaturants;
- the need for a good separation, to prevent peak overlap between ethanol and petrol components, is underlined (8.5.3).

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, Türkiye and the United Kingdom.

Introduction

This document specifies a gas chromatographic (GC) test method for the determination of a number of compounds present in ethanol for use as a blending component in petrol according to the CEN ethanol blending component specification EN 15376 [1]. The test method comprises of GC identification and analysis of a number of molecules, which are then attributed to several classes (“impurities”, “methanol”, “higher alcohols”), which are needed for calculation of the specified values as required in EN 15376.

The method described in this document was prepared by CEN/TC 19’s Working Group 9 and is based on two methods ([2] and [3]) published from a European Regulation on wine and on other internationally published analytical methods on spirits [4]. The method was modified for determinations in non-denatured ethanol for automotive applications. When ethanol blending in petrol became more common outside the refinery, it appeared to be necessary to generalize the test method more towards denatured ethanol.

Sample Document

get full document from standards.iteh.ai

1 Scope

This document specifies a gas chromatographic method for ethanol, in which higher alcohols (propan-1-ol, butan-1-ol, butan-2-ol, 2-methylpropan-1-ol (iso-butanol), 2-methylbutan-1-ol, and 3-methylbutan-1-ol) from (0,1 up to 2,5) mass percentage, methanol from (0,1 up to 3) mass percentage and other impurities, in the range from (0,1 up to 2) mass percentage are determined.

NOTE 1 The European ethanol blending component specification [1] sets a limit for the combined result of ethanol + higher alcohols, not the ethanol content itself.

The method is developed for non-denatured ethanol samples. With sufficient attention to correct separation of the higher alcohols and other components, determination of hydrocarbons in ethanol that contains denaturants as per EN 15376 [1] is possible.

NOTE 2 For the purposes of this document, the term “% (m/m)” is used to represent the mass percentage or mass fraction (ω).

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 ISO 3170, *Hydrocarbon liquids — Manual sampling (ISO 3170)*

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

3 Terms and definitions

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

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

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

3.1

impurities

compounds not attributed to the groups of higher alcohols or methanol

4 Principle

The compounds specified in the scope are determined by direct injection of a test portion into a gas chromatograph (GC) system. An internal standard is added to the sample prior to the injection. The compounds are separated with suitable GC equipment using temperature programming with the option to also use flow programming on a suitable column. They are detected using a flame ionization detector (FID). The concentration of each compound is determined from response factors with respect to the internal standard.

Water, if present in the sample, is not included in this analysis, because a signal for water is not visible in the chromatogram.