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Benseenisisalduse määramine infrapuna-
spektromeetria abil**

Liquid petroleum products - Petrol - Determination
of the benzene content by infrared spectrometry

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 238:2000 sisaldab Euroopa standardi EN 238:1996 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 11.01.2000 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 238:2000 consists of the English text of the European standard EN 238:1996.

This standard is ratified with the order of Estonian Centre for Standardisation dated 11.01.2000 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

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ICS 75.160.20

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EUROPEAN STANDARD

EN 238

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 1996

ICS 75.160.20

Descriptors: petroleum products, liquids, motor fuels, chemical analysis, determination of content, benzene, infrared spectrometric method

English version

**Liquid petroleum products - Petrol - Determination
of the benzene content by infrared spectrometry**

Produits pétroliers liquides - Essence -
Détermination de la teneur en benzène par
spectrométrie infrarouge

Flüssige Mineralölerzeugnisse - Ottokraftstoff
- Bestimmung des Benzolgehaltes durch
Infrarotspektrometrie

This European Standard was approved by CEN on 1995-10-06. 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.

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CEN

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 19 "Petroleum products, lubricants and related products", the secretariat of which is held by NNI.

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 July 1996, and conflicting national standards shall be withdrawn at the latest by July 1996.

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

This European Standard is based on DIN 51 414: "Testing of petroleum products; determination of the benzene content of gasolines; determination by infrared spectrometry" (June 1985) in connection with DIN 51 451: "Testing of petroleum products and related products; analysis by infrared spectrometry; general working principles" (September 1988).

In this standard annex A is normative.

1 Scope

This European Standard specifies an infrared spectrometric method for the determination of benzene content in petrol in the range 0,1 % (V/V) to 20 % (V/V). The presence of cyclopentadiene in the sample will interfere with the benzene determination when it exceeds 5 % (V/V).

Contents of ethanol less than 10 % (V/V) and toluene less than 25 % (V/V) do not interfere with the benzene determination.

WARNING The use of this European Standard may involve hazardous materials, operations and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

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.

ISO 595-1	Reusable all-glass or metal-and-glass syringes for medical use - Part 1: Dimensions
ISO 595-2	Reusable all-glass or metal-and-glass syringes for medical use - Part 2: Design, performance requirements and tests
ISO 648	Laboratory glassware - One-mark pipettes
ISO 1042	Laboratory glassware - One-mark volumetric flasks
ISO 3170	Petroleum liquids - Manual sampling
ISO 3171	Petroleum liquids - Automatic pipeline sampling

3 Principle

After dilution of the sample with cyclohexane an infrared spectrum is recorded from 730 cm^{-1} to 630 cm^{-1} . The absorbance is measured at 673 cm^{-1} and compared with the absorbance of standard benzene solutions. The benzene content is then given in g/100 ml and calculated as a percentage by volume or by mass.

4 Reagents and materials