

## **Liquid petroleum products - Determination of contamination in middle distillates**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12662:2008 sisaldab Euroopa standardi EN 12662:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 26.05.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 26.03.2008.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12662:2008 consists of the English text of the European standard EN 12662:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 26.05.2008 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 26.03.2008.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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**Võtmesõnad:** automotive fuels, chemical residues, contamination, diesel fuels, diesel oil, filters, filtration, light fuel oil, liquid fuels, petroleum products, sampling, testing conditions, tests

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Aru 10 Tallinn 10317 Eesti; [www.evs.ee](http://www.evs.ee); Telefon: 605 5050; E-post: [info@evs.ee](mailto:info@evs.ee)

English Version

## Liquid petroleum products - Determination of contamination in middle distillates

Produits pétroliers liquides - Détermination de la contamination des distillats moyens

Flüssige Mineralölerzeugnisse - Bestimmung der Verschmutzung in Mitteldestillaten

This European Standard was approved by CEN on 24 February 2008.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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## Foreword

This document (EN 12662:2008) 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 September 2008, and conflicting national standards shall be withdrawn at the latest by September 2008.

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.

This document supersedes EN 12662:1998.

The major update of this document in comparison with the former edition is that filtration procedure has been updated in order to improve precision and scope. At this stage an interlaboratory study with field samples, following a study with artificial samples, is pending and therefore the repeatability and reproducibility have not yet been fully established, also because of some indications towards problems when the test method is applied to 100 % (V/V) FAME. CEN intends to revise this method when the results of the work on FAME (also at levels of 7 % and 10 %) will be known.

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 a method for determining contamination as the content of undissolved substances in middle distillates containing up to 5 % (V/V) fatty acid methyl esters (FAME) and in 100 % (V/V) FAME. This method can be applied for contaminant content from 6 mg/kg to 30 mg/kg.

NOTE 1 Excessive contamination in a fuel system can give rise to premature blocking of filters and / or hardware failure, and is therefore undesirable.

This standard applies to liquid petroleum products having a kinematic viscosity not exceeding 8 mm<sup>2</sup>/s at 20 °C, or 5 mm<sup>2</sup>/s at 40 °C, e.g. diesel fuel as specified in EN 590 [1] or light fuel oils.

Although the test method precision has not been defined, the method described may also be used for blends containing more than 5% (V/V) FAME and for petroleum products having a viscosity exceeding the above.

NOTE 2 For the purposes of this European Standard, the term "% (V/V)" is used to represent the volume fraction.

**WARNING — Use of this 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 to 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 14275, *Automotive fuels – Assessment of petrol and diesel fuel quality - Sampling from retail site pumps and commercial site fuel dispensers*

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

EN ISO 3171, *Petroleum liquids - Automatic pipeline sampling (ISO 3171:1988)*

ISO 3819 *Laboratory glassware - Beakers*

## 3 Terms and definitions

For the purposes of this standard, the following term and definition applies.

### **contamination**

undissolved substances retained on a filter after filtration under test conditions

## 4 Principle

A sample portion of 800 ml ± 25 ml is weighed and filtered under vacuum through a pre-weighed filter. The filter with the residue is washed, dried and weighed. Contamination is calculated from the difference in mass of the filter and expressed relative to the sample mass as mg/kg.

## 5 Reagents and materials

**5.1 Heptane**, with a purity no less than 99,0 % (V/V), filtered using a filter (membrane) with a mean pore size of 0,45 µm.