

**Petroleum products - Determination of
water - Coulometric Karl Fischer titration
method**

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Coulometric Karl Fischer titration method

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 12937:2001 sisaldab Euroopa standardi EN ISO 12937:2000 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 04.04.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 12937:2001 consists of the English text of the European standard EN ISO 12937:2000.</p> <p>This document is endorsed on 04.04.2001 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>Käsitlusala:</p> <p>This International and European standard specifies a method for the direct determination of water in petroleum products boiling below 390 ° C. It covers the mass fraction range 0,003 % (m/m) to 0,100 % (m/m). It is not applicable to products containing ketones or residual fuel oils.</p>	<p>Scope:</p> <p>This International and European standard specifies a method for the direct determination of water in petroleum products boiling below 390 ° C. It covers the mass fraction range 0,003 % (m/m) to 0,100 % (m/m). It is not applicable to products containing ketones or residual fuel oils.</p>
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ICS 75.080

Võtmesõnad: determination of content, karl fischer, karl fischer titration, petroleum products, sampling, testing, titration, water content

ICS 75.080

English version

Petroleum products

**Determination of water – Coulometric Karl Fischer titration method
(ISO 12937 : 2000)**

Produits pétroliers – Dosage de l'eau –
Méthode de titrage Karl Fischer par
coulométrie (ISO 12937 : 2000)

Mineralölerzeugnisse – Bestimmung
des Wassergehaltes – Coulometrische
Titration nach Karl Fischer
(ISO 12937 : 2000)

This European Standard was approved by CEN on 2000-10-27.

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 Management Centre 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 Management Centre 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

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

Foreword

International Standard

ISO 12937 : 2000 Petroleum products – Determination of water – Coulometric Karl Fischer titration method, which was prepared by ISO/TC 28 'Petroleum products and lubricants' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 19 'Petroleum products, lubricants and related products', the Secretariat of which is held by NEN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by May 2001 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

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.

Endorsement notice

The text of the International Standard ISO 12937 : 2000 was approved by CEN as a European Standard without any modification.

Contents

Page

Foreword.....	2
1 Scope	3
2 Normative references	3
3 Principle.....	4
4 Chemicals and materials.....	4
5 Apparatus	5
6 Sampling and sample preparation (see annex A)	5
7 Apparatus preparation	6
8 Apparatus check test	6
9 Procedure	7
10 Calculation.....	7
11 Expression of results	7
12 Precision.....	8
13 Test report	8
Annex A (normative) Sample handling	9
Annex B (informative) Alternative test method using volumetric determination of sample size	11

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

1 Scope

This International Standard specifies a method for the direct determination of water in petroleum products boiling below 390 °C. It covers the mass fraction range 0,003 % (m/m) to 0,100 % (m/m). It is not applicable to products containing ketones or to residual fuel oils.

This International Standard may be applicable to lubricating base oils. However, the precision has not been established for these materials.

The precision given in clause 12 is based upon data obtained using dual-cell, dual-electrolyte systems.

NOTE 1 A number of substances and classes of compounds associated with condensation or oxidation-reduction reactions interfere in the determination of water by Karl Fischer titration. In petroleum products, the most common interferences are hydrogen sulfide and mercaptan sulfur, however, mass fractions of these below 0,003 % (m/m) as sulfur will not cause significant interference over the range 0,003 % (m/m) to 0,100 % (m/m) water. Other organic sulfur compounds commonly present such as sulfides, disulphides and thiophenes, do not interfere.

NOTE 2 An alternative procedure is provided for information in annex B for the direct determination of water over the range 0,003 % (V/V) to 0,100 % (V/V) in petroleum products. The limitations under which this alternative volume measurement may be used are listed in annex B.

NOTE 3 For the purposes of this International Standard, the terms "% (m/m)" and "% (V/V)" are used to represent the mass and volume fraction of a material respectively.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3170:1988, *Petroleum liquids — Manual sampling*.

ISO 3171:1988, *Petroleum liquids — Automatic pipeline sampling*.

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