EESTI STANDARD EVS-EN ISO 8754:2003

Naftasaadused. Väävlisisalduse määramine. Energiat dispergeeriv X-kiirguse fluorestsentsmeetod

Petroleum products - Determination of sulfur content - Energydispersive X-ray fluorescence spectrometry

EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 8754:2003 sisaldab Euroopa standardi EN ISO 8754:2003 ingliskeelset teksti. Käesolev dokument on jõustatud 26.11.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 8754:2003 consists of the English text of the European standard EN ISO 8754:2003. This document is endorsed on 26.11.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This International Standard specifies a method for the determination of the sulfur content of petroleum products, such as naphtas, unleaded motor gasolines, middle distillates, residua fuel oils, base lubricating oils and components	**Scope:** This International Standard specifies a method for the determination of the sulfur content of petroleum products, such as naphtas, unleaded motor gasolines, middle distillates, residua fuel oils, base lubricating oils and components

ICS 75.080

Võtmesõnad:

EUROPEAN STANDARD
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ICS 75.080

Supersedes EN ISO 8754 : 1995.

English version

Petroleum products – Determination of sulfur content

Energy-dispersive X-ray fluorescence spectrometry
(ISO 8754 : 2003)

Produits pétroliers – Détermination de la teneur en soufre – Spectrométrie de fluorescence de rayons X dispersive en énergie (ISO 8754 : 2003)

Mineralölerzeugnisse – Bestimmung des Schwefelgehaltes – Energiedispersive Röntgenfluoreszenz-Spektrometrie (ISO 8754 : 2003)

This European Standard was approved by CEN on 2003-07-10.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovakia, 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

Ref. No. EN ISO 8754 : 2003 E

Foreword

International Standard

ISO 8754 : 2003 Petroleum products – Determination of sulfur content – Energy-dispersive X-ray fluorescence spectrometry,

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 January 2004 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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 8754 : 2003 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

Introduction

Specialized procedures, using the analytical technique described in this International Standard, for automotive fuels with sulfur contents below 0,20 % (*m/m*), are under development.

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 determination of the sulfur content of petroleum products, such as naphthas, unleaded motor gasolines, middle distillates, residual fuel oils, base lubricating oils and components. The method is applicable to products having sulfur contents in the range 0,03 % (*m/m*) to 5,00 % (*m/m*).

NOTE For the purposes of this International Standard, the term "% (*m/m*)" is used to represent the mass fraction of a material.

Heavy metal additives, such as lead alkyls, may interfere with the determination. Elements such as silicon, phosphorus, calcium, oxygen, potassium, zinc, molybdenum, barium and halogens interfere, if present in concentrations of more than a few hundred milligrams per kilogram. Some modern instruments allow the analyst to compensate for matrix and spectral interferences by spectra deconvolution and inter-element correction by multiple regression.

For samples varying in composition of aromatic hydrocarbons and paraffinic hydrocarbons, the ratio of carbon to hydrocarbon in a sample (C/H ratio) may also interfere with the determination, when the ratio of the sample differs by one or more from that of the reference materials from which the calibration is obtained.

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.

ISO 3170:—[1)], *Petroleum liquids — Manual sampling*

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

3 Principle

The test portion is placed in the beam emitted from an X-ray source. The excitation energy may be derived from a radioactive source, such as ^{55}Fe, or from an X-ray tube. The resultant excited characteristic X radiation is measured, and the accumulated count is compared with a calibration graph plotting counts against sulfur content as percentage by mass [% (*m/m*)], on a series of calibration samples covering the range of sulfur contents under examination.

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1) To be published. (Revision of ISO 3170:1988)