SLOVENSKI STANDARD
SIST EN ISO 20846:2011

01-december-2011

Nadomešča:

SIST EN ISO 20846:2004

Naftni proizvodi - Določevanje žvepla v gorivih za motorna vozila - Ultravijolična fluorescenčna metoda (ISO 20846:2011)

Petroleum products - Determination of sulfur content of automotive fuels - Ultraviolet fluorescence method (ISO 20846:2011)

Mineralölerzeugnisse - Bestimmung des Schwefelgehaltes von Kraftstoffen für Kraftfahrzeuge - Ultraviolettfluoreszenz- Verfahren (ISO 20846:2011)

Produits pétroliers - Détermination de la teneur en soufre des carburants pour automobiles - Méthode par fluorescence ultraviolette (ISO 20846:2011)

Ta slovenski standard je istoveten z: **EN ISO 20846:2011**

ICS:

75.160.20	Tekoča goriva	Liquid fuels

SIST EN ISO 20846:2011 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 20846

October 2011

ICS 75.160.30; 75.160.20

Supersedes EN ISO 20846:2004

English Version

Petroleum products - Determination of sulfur content of automotive fuels - Ultraviolet fluorescence method (ISO 20846:2011)

Produits pétroliers - Détermination de la teneur en soufre des carburants pour automobiles - Méthode par fluorescence ultraviolette (ISO 20846:2011)

Mineralölerzeugnisse - Bestimmung des Schwefelgehaltes von Kraftstoffen für Kraftfahrzeuge - Ultraviolettfluoreszenz-Verfahren (ISO 20846:2011)

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Foreword

This document (EN ISO 20846:2011) has been prepared by Technical Committee ISO/TC 28 "Petroleum products and lubricants" in collaboration 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of an identical text or by endorsement, at the latest by April 2012, and conflicting national standards shall be withdrawn at the latest by April 2012.

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.

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Endorsement notice

The text of ISO 20846:2011 has been approved by CEN as a EN ISO 20846:2011 without any modification.

INTERNATIONAL STANDARD

ISO 20846

Second edition
2011-10-01

Petroleum products — Determination of sulfur content of automotive fuels — Ultraviolet fluorescence method

Produits pétroliers — Détermination de la teneur en soufre des carburants pour automobiles — Méthode par fluorescence ultraviolette

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 20846 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*.

This second edition cancels and replaces the first edition (ISO 20846:2004), which has been technically revised.

Petroleum products — Determination of sulfur content of automotive fuels — Ultraviolet fluorescence method

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 an ultraviolet (UV) fluorescence test method for the determination of the sulfur content of motor gasolines containing up to 3,7 % (*m*/*m*) oxygen [including those blended with ethanol up to about 10 % (*V*/*V*)], and of diesel fuels, including those containing up to about 10 % (*V*/*V*) fatty acid methylester (FAME), having sulfur contents in the range 3 mg/kg to 500 mg/kg. Other products can be analysed and other sulfur contents can be determined according to this test method, however, no precision data for products other than automotive fuels and for results outside the specified range have been established for this International Standard. Halogens interfere with this detection technique at concentrations above approximately 3 500 mg/kg.

NOTE 1 Some process catalysts used in petroleum and chemical refining can be poisoned when trace amounts of sulfur-bearing materials are contained in the feedstocks.

NOTE 2 This test method can be used to determine sulfur in process feeds and can also be used to control sulfur in effluents.

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

NOTE 4 Sulfate species in ethanol do not have the same conversion factor of organic sulfur in ethanol. Nevertheless, sulfates have a conversion factor close to that of organic sulfur.

NOTE 5 It is preferable to check the nitrogen interference and to take it into account, especially when sulfur content is measured on diesel blended with cetane improver containing nitrogen. For example, alkyl nitrate, as 2-ethyl hexyl nitrate (EHN), added as cetane improver to diesel fuel shows an enhancing effect on sulfur content that can range from 0 to 1,7 mg/kg when 2 000 mg/kg EHN is added to diesel fuel containing 10 mg/kg sulfur.

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 1042, *Laboratory glassware — One-mark volumetric flasks*

ISO 3170, *Petroleum liquids — Manual sampling*

ISO 3171, *Petroleum liquids — Automatic pipeline sampling*

ISO 3675, *Crude petroleum and liquid petroleum products — Laboratory determination of density — Hydrometer method*

ISO 12185, *Crude petroleum and petroleum products — Determination of density — Oscillating U-tube method*

3 Principle

A hydrocarbon sample is injected into a UV fluorescence detector. The sample enters a high temperature combustion tube (1 000 °C to 1 100 °C), where the sulfur is oxidized to sulfur dioxide (SO_2) in an oxygen-rich atmosphere. Water produced during the sample combustion is removed and the sample combustion gases are