SLOVENSKI STANDARD
oSIST prEN 14331:2024

01-julij-2024

Tekoči naftni proizvodi - Ločba in opredelitev metil estrov maščobnih kislin (FAME) v srednjih destilatih - Metoda tekočinske (LH)/plinske kromatografije (GC)

Liquid petroleum products - Separation and characterisation of fatty acid methyl esters (FAME) from middle distillates - Liquid chromatography (LC)/gas chromatography (GC) method

Flüssige Mineralölerzeugnisse - Trennung und Bestimmung von Fettsäure-Methylestern (FAME) aus Mitteldestillaten - Flüssigchromatographie (LC)/Gaschromatographie (GC)

Produits pétroliers liquides - Séparation et caractérisation des esters méthyliques d'acides gras (EMAG) dans les distillats moyens - Méthode par chromatographie liquide (CL) et chromatographie en phase gazeuse (CPG)

Ta slovenski standard je istoveten z: **prEN 14331**

ICS:

75.080	Naftni proizvodi na splošno	Petroleum products in general

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EUROPEAN STANDARD

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prEN 14331

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ICS 75.080

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English Version

Liquid petroleum products - Separation and characterisation of fatty acid methyl esters (FAME) from middle distillates - Liquid chromatography (LC)/gas chromatography (GC) method

Produits pétroliers liquides - Séparation et caractérisation des esters méthyliques d'acides gras (EMAG) dans les distillats moyens - Méthode par chromatographie liquide (CL) et chromatographie en phase gazeuse (CPG)

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 19.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Contents

Page

European foreword

This document (prEN 14331:2024) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 14331:2004.

prEN 14331:2024 includes the following significant technical changes with respect to EN 14331:2004:

— modification to include short chain methyl ethers (C6:0 to C14:0);

— deletion of Annex A and Annex B because they have become unnecessary, as reference is made to EN 14103 for the determination of the pattern of the fatty acid methyl esters by gas chromatography (GC).

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

1 Scope

This document specifies a method for the separation of fatty acid methyl esters (FAME) from middle distillates by liquid chromatography (LC) and for the determination of the pattern of the fatty acid methyl esters by gas chromatography (GC) according to EN 14103.

The pattern of the fatty acid methyl esters might be used for calculation of the average molecular mass of FAME according to EN 14078 [1].

Independently from the origin of the middle distillate, this method is applicable to FAME of vegetable or animal origin that contain fatty acid methyl esters between C6:0 and C24:1. The method is suitable for the separation and determination of FAME from middle distillates with FAME contents of at least 2 % (V/V).

NOTE For the purpose of this document, the terms % (V/V) and % (m/m) are used to express volume fractions in % or mass fractions in %.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 14103:2020, *Fat and oil derivatives — Fatty Acid Methyl Esters (FAME) — Determination of ester and linolenic acid methyl ester contents*

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

EN ISO 3171, *Petroleum liquids — Automatic pipeline sampling (ISO 3171)*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Principle

The method consists of two stages:

— separation of the FAME fraction from the middle distillate/FAME mixture by liquid adsorption chromatography under atmospheric pressure on a silica micro-column;

— determination of individual esters within the separated FAME fraction by gas chromatography according to EN 14103.

5 Reagents and materials

5.1 Hexane, analytical grade.

5.2 MTBE, analytical grade.