SLOVENSKI STANDARD
SIST EN 14214:2012/kprA1:2013

01-junij-2013

Goriva za motorna vozila - Metilni estri maščobnih kislin (FAME) za dizelske motorje - Zahteve in preskusne metode

Liquid petroleum products - Fatty acid methyl esters (FAME) for use in diesel engines and heating applications - Requirements and test methods

Kraftstoffe für Kraftfahrzeuge - Fettsäure-Methylester (FAME) für Dieselmotoren - Anforderungen und Prüfverfahren

Carburants pour automobiles - Esters méthyliques d'acides gras (EMAG) pour moteurs diesel - Exigences et méthodes d'essais

Ta slovenski standard je istoveten z: **EN 14214:2012/FprA1**

ICS:

75.160.20	Tekoča goriva	Liquid fuels

SIST EN 14214:2012/kprA1:2013 **en,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

FINAL DRAFT
EN 14214:2012

FprA1

May 2013

ICS 75.160.20

English Version

Liquid petroleum products - Fatty acid methyl esters (FAME) for use in diesel engines and heating applications - Requirements and test methods

Produits pétroliers liquides - Esters méthyliques d'acides gras (EMAG) pour moteurs diesel et comme combustible de chauffage - Exigences et méthodes d'essai

Flüssige Mineralölerzeugnisse - Fettsäure-Methylester (FAME) zur Verwendung in Dieselmotoren und als Heizöl - Anforderungen und Prüfverfahren

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 19.

This draft amendment A1, if approved, will modify the European Standard EN 14214:2012. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

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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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Foreword

This document (EN 14214:2012/FprA1:2013) 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 Unique Acceptance Procedure.

1 Modifications to the Foreword

Delete the 6th paragraph: "This document exists in parallel with EN 590.".

Introduce after the first listed item under the technical changes: "further clarification regarding the use of dyes and markers due to its new heating fuel application;".

Introduce after the second listed item under the technical changes: "removal of identification of parallel existence with EN 590 as FAME is being used for more than one blending purpose;".

Rephrase the eighth listed item under the technical changes starting after 'phosphorus content': "CFPP and sulfur content, EN 16300, EN 16294, EN 16329 and EN ISO 13032, respectively.".

Introduce in the ninth listed item under the technical changes between 'polyunsaturated fatty acids' and 'stability characteristics of FAME': "oxidation stability, total contamination," *and introduce a second sentence:* "The test method procedure for total contamination (prEN 12662) has been technically updated to specifically allow improved applicability to FAME (see CEN/TC 19/N 1512R, report I);".

Replace the last listed item under the technical changes with "a re-evaluation of Table A.1 has been executed and it was agreed to complete Annex A by presenting reproducibility information for all test methods that is mainly of interest to people handling the fuel.".

2 Modifications to Clause 2

Replace third reference by: "prEN 12662:2012 [1)], *Liquid petroleum products — Determination of total contamination in middle distillates, diesel fuels and fatty acid methyl esters*".

Replace fifteenth reference by: "prEN 15751:2012[1)], *Automotive fuels — Fatty acid methyl ester (FAME) fuel and blends with diesel fuel — Determination of oxidation stability by accelerated oxidation method*".

Replace seventeenth reference by: "EN 16294:2012, *Petroleum products and fat and oil derivatives — Determination of phosphorus content in fatty acid methyl esters (FAME) — Optical emission spectral analysis with inductively coupled plasma (ICP OES)*".

Replace "EN 16300:2012[2)], *Automotive fuels — Determination of iodine value — Calculation method from gas chromatographic data*" *with* "EN 16300:2012, *Automotive fuels — Determination of iodine value in fatty acid methyl esters (FAME) — Calculation method from gas chromatographic data*".

Introduce as eighteenth reference: "EN 16329:2013, *Diesel and domestic heating fuels — Determination of cold filter plugging point — Linear cooling bath method*".

3 Modification to 5.1

Add at the end of the sentence: "provided they do not affect the performance of legally required dyes or markers in finished fuels".

4 Modifications to Table 1 under 5.3

8th row, last column, replace: "EN 15751" *with* "prEN 15751".

[1)] To be replaced by the final standard once published.

20th row, last column, replace: "EN 12662" *with* "prEN 12662", *remove table footnote k) and re-number the other footnotes.*

Last row, last column, replace: "FprEN 16294" *with* "EN 16294".

5 Modifications to Table 2 under 5.4.2

Last column in both Table 2a and 2b, add: "EN 16329".

Table footnote a in both parts of the table, add "and 5.5.2".

6 Modification to 5.4.3.2

Replace the last sentence "When mixing of distilled FAME with other FAME products cannot be excluded, the mixture shall not be considered as distilled FAME", *with a new paragraph:* "Blends of distilled FAME with other FAME products shall not be considered as distilled FAME.".

7 Modification to Table 3a under 5.4.3.3

Last column, second row, add: "EN 16329" *and include table footnote c* "See 5.5.2.".

8 Modifications to 5.5.1

Add after the first sentence: "These statements are presented for information in Annex A.".

Rewrite the second sentence: "In cases of dispute, the procedures described in EN ISO 4259 shall be used for resolving the dispute, and interpretation of the results based on the test method precision, or, where precision data is known to be different for FAME as listed in Annex A, precision data from Annex A, shall be used." *into:* "In cases of dispute, the procedures described in EN ISO 4259 shall be used for resolving the dispute, and interpretation of the results based on the test method precision. For EN ISO 5165, where precision data is known to be different for FAME, the precision data given in Table A.1 shall be used.".

9 Modifications to 5.5.2

Third sentence, replace "EN 15751" *with* "prEN 15751".

Add after the last sentence: "In cases of dispute concerning CFPP, EN 116 shall be used.".

10 Modification to Annex A

Replace the text of Annex A with the following:

"To assist the producers in determining whether they fulfil the requirements the precision equation and the reproducibility at the level of the requirements as in Tables 1, 2 and 3 are given in Table A.1.

The precision data given in Table A.1 apply in the case of FAME. In Table A.1 those data for requirements from standardised test methods that differ from precision data published in the actual standard are given for information purposes. Test methods where precision data for FAME are different from those in the actual method are given in bold. More details on some test methods are available in the interlaboratory test report [5].

Table A.1 — Precision data from interlaboratory test programme

Property	Unit	Test method	Precision equation *(R)*	Reproducibility at specification limit
FAME content	% (*m/m*)	EN 14103:2011	4,16	4,16
Density at 15 °C	kg/m^3	EN ISO 3675:1998	1,2	1,2
		EN ISO 12185:1996	0,5	0,5
Viscosity at 40 °C	mm^2/s	EN ISO 3104:1996	0,008 2 (X +1)	
Flash point	°C	EN ISO 3679:2004	15	15
		EN ISO 2719:2002	**11,4** (*r* = 2,4)	11,4
Cetane number		**EN ISO 5165:1998**	**5,0** (*r* = 2,4)	5,0
Oxidation stability	h	prEN 15751:2012	0,190 38 X + 0,372 69	1,90
		EN 14112:2003	0,26 X + 0,23	2,31
Acid value	mg KOH/g	EN 14104:2003	0,06	0,06
Iodine value	g iodine/100g	EN 14111:2003	5	5
		EN 16300:2012	0,053 X + 1,121 6	7,5
Linolenic acid methyl ester	% (*m/m*)	EN 14103:2011	0,028 5 X + 0,387 2	0,7
Polyunsaturated methyl ester	% (*m/m*)	EN 15779:2009	0,27	0,27
Methanol content	% (*m/m*)	EN 14110:2003	0,221 X + 0,003	0,05
Monoglyceride content	% (*m/m*)	EN 14105:2011	0,186 7 X + 0,065 4	0,20
Diglyceride content	% (*m/m*)	EN 14105:2011	0,188 5 X + 0,028 9	0,07
Triglyceride content	% (*m/m*)	EN 14105:2011	0,318 X + 0,052	0,12
Free glycerol	% (*m/m*)	EN 14105:2011	0,183 3 X + 0,006 1	0,052
		EN 14106:2003	0,781 2 X + 0,003 2	0,019
Total glycerol	% (*m/m*)	EN 14105:2011	0,190 2 X + 0,011 5	0,025
Water content	mg/kg	EN ISO 12937:2000	6,877 $X^{0,5}$	154
Total contamination	mg/kg	prEN 12662:2012	0,164 4 X + 4,111 0	8,06
Sulfated ash content	% (*m/m*)	ISO 3987:2010	0,189 $X^{0,85}$	0,007
Sulfur content	mg/kg	EN ISO 20846:2011	0,112 0 X + 1,12	2,2
		EN ISO 20884:2011	0,120 1 X + 1,9	3,1
		EN ISO 13032:2012	0,016 X + 3,70	3,9
Group I metals (Na + K)	mg/kg	**EN 14108:2003**	**0,305 X + 1,980** (*r* = -0,017 X + 0,512)	3,5
		EN 14109:2003	**0,305 X + 1,980** (*r* = -0,017 X + 0,512)	3,5
		EN 14538:2006	0,191 X + 0,941	1,9
Group II metals (Ca + Mg)	mg/kg	EN 14538:2006	0,149 X + 1,186	1,9
Phosphorus content	mg/kg	EN 14107:2003	0,192 X + 0,025	0,8
		EN 16294:2012	0,130 5 X + 0,931 6	1,5
Cloud point	°C	EN 23015:1994	4	
CFPP	°C	**EN 116:1997**	**0,0485 X + 3,9735** (*r = 1,227 5 -0,011 4 X)*	
		EN 16329:2013	1,7 - 0,052 X	

Where: *r* is the repeatability (EN ISO 4259); *R* is the reproducibility (EN ISO 4259) and X is the mean of two results being compared.

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