



SLOVENSKI STANDARD

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Tekoči naftni proizvodi - Metilni estri maščobnih kislin (FAME) za dizelske motorje in ogrevanje - Zahteve in preskusne metode

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

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

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

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75.160.20 Tekoča goriva

Liquid fuels

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Sample Document

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

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September 2026

ICS 75.160.40

Supersedes EN 14214:2012+A2:2019

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 European Standard was approved by CEN on 3 August 2026.

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This European Standard exists 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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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 14214:2026) 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 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 March 2027, and conflicting national standards shall be withdrawn at the latest by March 2027.

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

This document supersedes EN 14214:2012+A2:2019.

This document includes the following significant technical changes with respect to EN 14214:2012+A2:2019:

- update of the normative references towards undated versions;
- clarification of the wording of the scope;
- moving the information on the use of BHT as one example of an oxidation stabilizer in a note;
- inclusion of information on net calorific values for FAME used in heating applications;
- introduction of FAME content average molecular weight as a reporting criterion to be determined from the content of each fatty acid methyl ester in the FAME material, determined in accordance with EN 14103, and their respective molecular weights;
- deletion of the requirement on copper corrosion as it is no longer considered meaningful;
- deletion of the requirement on sulfated ash content as it is no longer considered meaningful ;
- decrease of the Group I metals (Na+K) content limit from 5,0 mg/kg to 4,0 mg/kg;
- decrease of the Group II metals (Ca+Mg) content limit from 5,0 mg/kg to 4,0 mg/kg;
- introduction of phosphorus content as an additional reporting criterion to be determined with EN 14538 in order to obtain information on actual phosphorus levels and experience with the updated method;
- adaptation of 6.4 with the transformation of the requirement to countries to develop a national normative annex defining climate-dependent requirements into a recommendation to National Standardization Bodies to develop such an annex;
- introduction of saturated monoglycerides content as a reporting criterion to be determined with EN 17057 in order to obtain information on actual saturated monoglycerides levels and experience with the method;
- deletion of the paragraph on distilled FAME, as there is no general definition of a distilled FAME, addition of a note that FAME containing very low contents of monoglycerides and other contaminants can be produced by, for example, distillation;

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- subdivision of 6.5 to clearly identify the arbitration method for each relevant property in the tables;
- introduction under 6.5.14 of a statement on how to handle bias correction;
- deletion of EN ISO 20884 as a designated arbitration method for the determination of sulfur content;
- conversion of EN 23015 to EN ISO 3015 as test method for the determination of cloud point (CP);
- inclusion of EN ISO 22995 as an alternative test method for the determination of cloud point (CP);
- definition of EN ISO 3015 as the arbitration test method for the determination of cloud point (CP) in cases of dispute;
- conversion of EN 12662 to EN 12662-2 as test method for the determination of total contamination;
- inclusion of EN ISO 18335 as an alternative test method for the determination of viscosity;
- deletion of Annex A (and renumbering of the following annexes) after re-evaluation of Table A.1 and conclusion that there are no methods with different precision statements for FAME that are not already addressed in the methods;
- adaptation of Annex B taking into account the introduction of saturated monoglycerides content as a reporting criterion in Table 1;
- introduction of Annex C to inform users about the results of the ILS conducted in 2023 using EN 16568:2023 to determine oxidation stability at 120 °C;
- introduction of Annex D to guide users for the calculation of FAME content average molecular weight.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

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.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

This document gives all relevant characteristics, requirements and test methods for fatty acid methyl esters (FAME), which are known at this time to be necessary to define the product for use in diesel engines and in heating applications.

Many of the test methods included in this document have been the subject of several interlaboratory testing to determine their applicability and their precision in relation to different sources of FAME.

Subclause 6.4 gives climate-dependent requirements with options for grades suitable under certain environmental temperatures. To guide the user in the choice of relevant grades, the definition of a national normative annex is strongly recommended. National Standardization Bodies are responsible for adding a national normative annex to this document. Users should contact their National Standardization Body in case a national normative annex is missing.

Concerning cold temperature properties of diesel blends related to the quality of the FAME used as a blending component, strong indications towards the relationship with saturated monoglycerides (SMG) and steryl-glycosides (SG) have become known. As no test methods to detect those components separately were available in the past, an interim solution in setting cold filter plugging point (CFPP) and cloud point (CP) limitations has been included in EN 14214:2012 and its subsequent editions (see Table 3).

With EN 17057, a suitable test method for the direct determination of the content of saturated monoglycerides in FAME is now available. To gain experience in all CEN member countries with SMG, the parameter has been introduced as a reporting parameter in Table 1 of this document. The information gained will be used for consideration for future limit setting.

Since EN 16934 [1] was published in 2017, data gathered for Europe have shown very low levels of SG below the detection limit and there have been no reported problems in the field that have been attributed to SG content. It is therefore not currently possible to determine an appropriate limit for SG. The situation and data will continue to be monitored.

In order to improve the lifetime of the exhaust aftertreatment system, lowering of the phosphorus limit is under investigation. EN 14538 for the determination of phosphorus has improved precision compared to EN 14107 and EN 16294 and is implemented as a reporting criterion to be able to collect data on phosphorus content in the future.