TECHNICAL SPECIFICATION

ISO/TS 17307

First edition
2016-02-01

Petroleum products — Biodiesel — Determination of total esters content by gas chromatography

Produits pétroliers — Biodiesel — Dosage de la teneur en esters totale par chromatographie en phase gazeuse

Reference number
ISO/TS 17307:2016(E)

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 28, *Petroleum products and related products of synthetic or biological origin*, Subcommittee SC 7, *Liquid biofuels*.

Petroleum products — Biodiesel — Determination of total esters content by gas chromatography

WARNING — The use of this Technical Specification might involve the usage of dangerous materials and equipment. It is the responsibility of the user to establish the appropriate security, health and environmental practices, and to determine the applicability of regulatory limitations before their use.

1 Scope

This Technical Specification establishes a method for determining the total methyl ester content in fatty acid methyl ester (FAME) by gas chromatography and using an external standard. The method is suitable for biodiesel which contains esters between C6 and C26. This method allows verifying that the total ester content is greater than 96,5 % (*m/m*).

NOTE 1 The method also allows determination of the total ethyl ester content in FAEE, but precision for this has not been established.

This Technical Specification does not determine the linolenic nor the poly-unsaturated alkyl ester content. Alternative techniques, such as EN 14103[1] and EN 15779[2], respectively, are available for this.

NOTE 2 For the purposes of this Technical Specification, the term "% (*m/m*)" is used to represent the mass fraction, *μ.*

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3170, *Petroleum liquids — Manual sampling*

ISO 3171, *Petroleum liquids — Automatic pipeline sampling*

ISO 4259, *Petroleum products — Determination and application of precision data in relation to methods of test*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
biodiesel
fuel comprised of monoalkyl esters of fatty acids, derived from vegetable oils or animal fat

3.2
total esters
sum of concentration of all esters (C6 – C26)

4 Principle

A sample is analysed by gas chromatography using an external calibration method to quantify the esters present in biodiesel regardless of the raw material used in its production.

