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I.S. EN 14105:2011

Fat and oil derivatives - Fatty Acid Methyl Esters (FAME) - Determination of free and total glycerol and mono-, di-, triglyceride contents

I.S. EN 14105:2011

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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English Version

**Fat and oil derivatives - Fatty Acid Methyl Esters (FAME) -
Determination of free and total glycerol and mono-, di-,
triglyceride contents**

Produits dérivés des corps gras - Esters méthyliques
d'acides gras (EMAG) - Détermination de la teneur en
glycérols libre et total et en mono-, di- et triglycérides

Erzeugnisse aus pflanzlichen und tierischen Fetten und
Ölen - Fettsäure-Methylester (FAME) - Bestimmung des
Gehaltes an freiem und Gesamtglycerin und Mono-, Di- und
Triglyceriden

This European Standard was approved by CEN on 10 March 2011.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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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Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 14105:2011) has been prepared by Technical Committee CEN/TC 307 "Oilseeds, vegetable and animal fats and oils and their by-products - Methods of sampling and analysis", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by October 2011, and conflicting national standards shall be withdrawn at the latest by October 2011.

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.

This document supersedes EN 14105:2003.

The main modifications of the standard are:

- the utilization of representative internal standards for monoglycérides, diglycerides and triglycerides in order to avoid using calibration solutions for these families of compounds;

- the introduction of a performance criteria for the gas chromatography column calculated with the response factors for the diglyceride and triglyceride internal standards.

The method has been updated to obtain better precision in general, needed for the limits required by European FAME specifications for automotive use [1]. This has been done by introducing separate internal standards for mono- (C19), di- (C38) and triglycerides (C57). Next an improvement of the integration has been incorporated and some evaluation of interference with minor components (i.e. dimers) has been done.

Via a new Round Robin study, improvement of the precision of free glycerol and diglyceride measurement has been proven. The precision statement of the former standard could be confirmed for triglyceride determination, but no improvement was made.

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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