



BSI Standards Publication

# Automotive fuels — High FAME diesel fuel blends (B11 — B30) — Background to the parameters required and their respective limits and determination

**National foreword**

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English Version

**Automotive fuels - High FAME diesel fuel blends (B11 - B30) -  
Background to the parameters required and their respective  
limits and determination**

Carburants pour automobiles - Mélanges de carburants  
diesel ayant une teneur en EMAG élevée (B11 - B30) -  
Contexte de l'élaboration des caractéristiques requises, de  
leurs déterminations et de leurs limites respectives

Kraftstoffe für Kraftfahrzeuge - Dieselmotormischungen  
mit hohem FAME-Anteil (B10 - B30) - Hintergrund zu den  
geforderten Parametern und deren jeweiligen Grenzwerten  
und Bestimmungen

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## Foreword

This document (CEN/TR 16557:2013) 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.

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## 1 Scope

This Technical Report provides background information to the deliberations within CEN that led to establish a specification for blending from more than 10 % (V/V) up to 30 % (V/V) of fatty acid methyl ester (FAME) in diesel fuel to be used in captive fleet application for designated vehicles. It gives guidance and explanations to the producers, blenders, marketers and users of high FAME diesel blends (B11 to B30).

The sole designation “Bxx” refers to a FAME-diesel blend where “xx” is the specific FAME content in volume percentage. The connotation “Byy fuel” is used in this document for a fuel with a defined range of FAME allowed and having “yy” volume percentage of FAME content as the maximum of that range.

NOTE For the purposes of this document, the term “% (m/m)” and “% (V/V)” are used to represent the mass fraction,  $\mu$ , and the volume fraction,  $\varphi$ , respectively.

## 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.

EN 116:1997, *Diesel and domestic heating fuels - Determination of cold filter plugging point*

EN 590, *Automotive fuels — Diesel — Requirements and test methods*

EN 12662:2008, *Liquid petroleum products - Determination of contamination in middle distillates*

EN 14078:2009, *Liquid petroleum products - Determination of fatty acid methyl ester (FAME) content in middle distillates - Infrared spectrometry method*

EN 14214, *Liquid petroleum products - Fatty acid methyl esters (FAME) for use in diesel engines and heating applications - Requirements and test methods*

EN 15195:2007, *Liquid petroleum products - Determination of ignition delay and derived cetane number (DCN) of middle distillate fuels by combustion in a constant volume chamber*

EN 15751:2009, *Automotive fuels - Fatty acid methyl ester (FAME) fuel and blends with diesel fuel - Determination of oxidation stability by accelerated oxidation method*

EN 16091:2011, *Liquid petroleum products - Middle distillates and fatty acid methyl ester (FAME) fuels and blends - Determination of oxidation stability by rapid small scale oxidation method*

EN 16329:2013, *Diesel and domestic heating fuels - Determination of cold filter plugging point - Linear cooling bath method*

EN ISO 2719:2002, *Determination of flash point - Pensky-Martens closed cup method (ISO 2719:2002)*

EN ISO 3104:1996, *Petroleum products - Transparent and opaque liquids - Determination of kinematic viscosity and calculation of dynamic viscosity (ISO 3104:1994)*

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

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