BS EN 18051:2024

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Automotive fuels — Determination of content of butoxy-benzene in middle distillates — Gas chromatographic method using a flame ionization detector (GC-FID)

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee PTI/15, Natural Gas and Gas Analysis.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Automotive fuels - Determination of content of butoxybenzene in middle distillates - Gas chromatographic method using a flame ionization detector (GC-FID)

Carburants pour automobiles - Détermination de la teneur en butoxybenzène dans les distillats moyens - Méthode par chromatographie en phase gazeuse utilisant un détecteur à ionisation de flamme (CPG-DIF)

Kraftstoffe - Bestimmung des Gehalts von Butoxybenzol in Mitteldestillaten - Gaschromatographisches Verfahren mit Flammenionisationsdetektor (GC-FID)

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European foreword

This document (EN 18051:2024) 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of an identical text or by endorsement, at the latest by June 2025, and conflicting national standards shall be withdrawn at the latest by June 2025.

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 supports implementation in the market of the Decision [1] of the European Commission with regards to common distillate fuel marking.

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.

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Introduction

For the proper functioning of the internal market, the European Commission has established Directives providing for a common marking system to identify gas oils and kerosene, which have been released for consumption exempt from excise duty, or which are subject to a reduced excise duty rate. In a review in 2019, the Commission's evaluation identified the shortcomings of the actual marker (Solvent Yellow 124) in terms of its lack of resilience to common removal methods.

Consequently, a new, colourless chemical marker, Butoxybenzene (CAS Registry Number 1126-79-0), was chosen to replace Solvent Yellow 124 as of 18 January 2024. This product or fiscal marker is commercially available as ACCUTRACE™ PLUS[1] from DOW.

At the time of publication of the decision [1], a gas chromatography technique using a mass spectrometer (GC-MS) as detector was promoted by DOW. That technique didn't have a full precision. The first contacts in 2022 with the European Commission and the EU Customs laboratories led CEN to conclude that the GC-MS would not be further standardized.

This document has then been developed to present a simpler alternative to the market compared to the GC-MS method.

The test method described in this document is based on a standard [2] previously prepared for a former fuel marker, ACCUTRACE™ S101 (3-secbutyl-4-decyloxyphenylmethanetriyltribenzene), which is used in a few European countries.

At the time of developing an interlaboratory study to determine method precision, the EU Customs laboratories (CLEN) expressed the intention to also study an improvement of the GC-MS method. CLEN and CEN used the same samples to develop precision. Bias against the ILIAD 606 method [3] has not been determined.

[1] Accutrace PLUS and ACCUTRACE S10 are the trade names of products supplied by DOW Chemicals. This information is given for the convenience of users of this document and does not constitute an endorsement by CEN of the product named. Equivalent products may be used.

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