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Responsible committee: PTI/2 Liquid Fuels

Interested committees:

Title: Draft BS EN 228 Automotive fuels - Unleaded petrol - Requirements and test methods

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

English Version

Automotive fuels - Unleaded petrol - Requirements and test methods

Carburants pour automobiles - Essence sans plomb -
Exigences et méthodes d'essai

Kraftstoffe - Unverbleite Ottokraftstoffe -
Anforderungen und Prüfverfahren

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 19.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 228:2024) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 228:2012+A1:2017.

This document was originally prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. In addition to other standards, it is intended to be complementary to the regulatory measures contained in various EU Directives.

The following is a list of significant technical changes between this document and the previous edition:

- several new or revised test methods have been introduced. The European Fuels Quality Directive 98/70/EC [1], including its Amendments [2], [3], [4], [10] and [12] refer to test methods in EN 228:2012, with the requirement that updated analytical methods shall be shown to give at least the same accuracy and at least the same precision as the methods they replace;
- introduction of the new clause “Terms and definitions”;
- correct use of the decimal point for Final Boiling Point (FBP) in limits has been implemented to align with test method reporting requirements;
- update to the normative references towards undated versions where they don't concern requirements originating from European Directives (in line with decisions by CEN/TC 19 in coordination with the European Commission), and updating the effective publication dates where required;
- deletion of the recommendation under 6.1 towards provision of evidence for the biological origin of ethanol as this has now been fully covered by the (revised) EC Renewable Energy Directive;
- introduction of EN 16270 as a method for high boiling components in unleaded petrol in 6.4;
- introduction of CEN/TR 17491 with further information on aniline, N-methyl aniline, N-ethyl aniline, N,N di-methyl aniline and secondary-butyl acetate when used as blending components in unleaded petrol in 6.4;
- clarification under 6.7.2 on how to address situations in which the test method includes a bias-correction to the dispute method;
- introduction of the new EN ISO 4259-1 and EN ISO 4259-2, instead of the withdrawn EN ISO 4259;
- introduction of new test method for vapour pressure, EN 13016-3, and establishing method of dispute as being EN 13016-1;
- introduction of a new micro-distillation test method, EN 17306, and establishing method of dispute as being EN ISO 3405;
- change of method of dispute for content of benzene, oxygen and methanol to EN ISO 22854;

- introduction of EN 13723 as an additional analysis method for lead content and establishing method of dispute as being EN 237, aiming at replacing EN 237 in the next revision;
- removal of reference to EN 238 and establishing of EN ISO 22854 as referee method for benzene content;
- removal of reference to EN 16135;
- introduction of new GC-VUV test method, prEN 18015, for the determination of olefins, aromatics, benzene, oxygen and oxygenates content.

The marking at the pump of this product is in line with the requirements of the European Fuels Quality Directive 98/70/EC [1], including its Amendments [2], [3], [4], [10], [12] and the Alternative Fuels Infrastructure Directive [11] [provision for a reference to the AFIR that will supersede AFID – publication is expected during autumn this year].

1 Scope

This document specifies requirements and test methods for marketed and delivered unleaded petrol. It is applicable to unleaded petrol for use in petrol engine vehicles designed to run on unleaded petrol.

This document specifies two types of unleaded petrol:

- one type with a maximum oxygen content of 3,7 % (m/m) and a maximum ethanol content of 10,0 % (V/V) in Table 1;
- one type in Table 2 with a maximum oxygen content of 2,7 % (m/m) and a maximum ethanol content of 5,0 % (V/V) intended for older vehicles that are not warranted to use unleaded petrol defined in Table 1.

NOTE 1 The two types are based on European Directive requirements [3], [4] and [10].

NOTE 2 For the purposes of this document, the terms “% (m/m)” and “% (V/V)” are used to represent respectively the mass fraction, μ , and the volume fraction, φ .

2 Normative references

The following documents, are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 237:2004, *Liquid petroleum products — Petrol — Determination of low lead concentrations by atomic absorption spectrometry*

EN 1601:2017, *Liquid petroleum products — Determination of organic oxygenate compounds and total organically bound oxygen content in unleaded petrol — Method by gas chromatography (O-FID)*

EN 12177:2022, *Liquid petroleum products — Unleaded petrol — Determination of benzene content by gas chromatography*

EN 13016-1:2018¹, *Liquid petroleum products — Vapour pressure — Part 1: Determination of air saturated vapour pressure (ASVP) and calculated dry vapour pressure equivalent (DVPE)*

EN 13016-3:2018¹, *Liquid petroleum products — Vapour pressure — Part 3: Determination of vapour pressure and calculated dry vapour pressure equivalent (DVPE) (Triple Expansion Method)*

EN 13132:2000, *Liquid petroleum products — Unleaded petrol — Determination of organic oxygenate compounds and total organically bound oxygen content by gas chromatography using column switching*

EN 13723:2002, *Petroleum products — Determination of low lead contents in gasolines — Wavelength-dispersive X-ray fluorescence spectrometry (XRF)*

EN 14275, *Automotive fuels — Assessment of petrol and diesel fuel quality — Sampling from retail site pumps and commercial site fuel dispensers*

EN 15376, *Automotive fuels — Ethanol as a blending component for petrol — Requirements and test methods*

EN 15553:2021, *Petroleum products and related materials — Determination of hydrocarbon types - Fluorescent indicator adsorption method*