

## საქართველოს სტანდარტი

---

საავტომობილო საწვავი - არაეთილირებული ბენზინი - მოთხოვნები და  
გამოცდის მეთოდები

საქართველოს სტანდარტებისა და მეტროლოგიის  
ეროვნული სააგენტო  
თბილისი

# სსტ ენ 228:2012+A1:2017/2018

## საინფორმაციო მონაცემები

**1** შემუშავებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტების დეპარტამენტის მიერ

**2** დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს 2018 წლის 3 აპრილის № 28 განკარგულებით

**3** მიღებულია გარეკანის თარგმნის მეთოდით სტანდარტიზაციის ევროპული კომიტეტის სტანდარტი ენ 228:2012+A1:2017 „საავტომობილო საწვავი - არაეთილირებული ბენზინი - მოთხოვნები და გამოცდის მეთოდები“

### 4 პირველად

**5** რეგისტრირებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2018 წლის 3 აპრილი №268-1.3-012721

აკრძალულია ამ სტანდარტის გადაცემა მესამე პირებისათვის ან/და მისი სხვა ფორმით გავრცელება

English Version

## Automotive fuels - Unleaded petrol - Requirements and test methods

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

Kraftstoffe für Kraftfahrzeuge - Unverbleite  
Ottokraftstoffe - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 1 September 2012 and includes Amendment 1 approved by CEN on 17 March 2017.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

<b>Contents</b>	<b>Page</b>
European foreword.....	3
<b>1 Scope</b> .....	<b>5</b>
<b>2 Normative references</b> .....	<b>5</b>
<b>3 Sampling</b> .....	<b>7</b>
<b>4 Pump marking</b> .....	<b>7</b>
<b>5 Requirements and test methods</b> .....	<b>7</b>
5.1 <b>☐A1</b> Bio-components <b>☐A1</b> .....	7
5.2 <b>Dyes and markers</b> .....	<b>8</b>
5.3 <b>Additives</b> .....	<b>8</b>
5.4 <b>Generally applicable requirements and test methods</b> .....	<b>8</b>
5.5 <b>Climatically dependent requirements and test methods</b> .....	<b>11</b>
5.6 <b>Octane reporting</b> .....	<b>15</b>
5.7 <b>Precision and dispute</b> .....	<b>15</b>
<b>Annex A (normative) Vapour pressure waiver</b> .....	<b>17</b>
<b>A.1 Vapour pressure waiver permitted</b> .....	<b>17</b>
<b>A.2 Guidance for checking compliance with the permitted waiver</b> .....	<b>17</b>
<b>Bibliography</b> .....	<b>19</b>

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.

## European foreword

This document (EN 228:2012+A1:2017) 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 November 2017, and conflicting national standards shall be withdrawn at the latest by November 2017.

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  $\boxed{A1}$  EN 228:2012  $\boxed{A1}$ .

This document includes Amendment 1 approved by CEN on 17 March 2017.

The start and finish of text introduced or altered by amendment is indicated in the text by tags  $\boxed{A1}$   $\boxed{A1}$ .

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 European Standard and the previous edition:

- $\boxed{A1}$  New requirements following amendment 2009/30/EC [3], 2011/63/EU [4] and 2014/77/EU [11] to the European Fuels Quality Directive 98/70/EC [1], are taken into account.  $\boxed{A1}$  Tables 1, 2, 3, 4 and A.1 explicitly differentiate between requirements included in the European Fuels Directive 98/70/EC [1], including subsequent Amendments [2], [3] and [4], and other requirements.
- Specific requirements concerning the limitation of use of methylcyclopentadienyl manganese tricarbonyl (MMT) as required by the EC have been incorporated.
- As the introduction of 10 % (V/V) of ethanol in unleaded petrol has an impact on refinery and blending processes, an update of the distillation characteristics has been considered and a new Table 3 with slightly adapted volatility classes (E70, E100 and VLI) has been introduced. Work is still ongoing to generate data that would support the idea that these changes do not affect cold starting and hot weather driveability aspects of the vehicles. These updates have been agreed upon with precaution and might be revised depending on fuel-related issues in the market.
- Further specification is given, by including separate tables on unleaded petrol grade for older vehicles that are not warranted to use unleaded petrol with a high biofuel content. A CEN/TR aiming at giving guidance on oxygenate blending has been prepared in parallel [5].
- Further clarification on how to determine the vapour pressure waiver for unleaded petrol containing ethanol, allowed on the market under exemption circumstances, is given in Annex A. The exact number of decimal points for the waiver has been clarified [4].
- Several new or revised test methods have been introduced. The European Fuels Directive 98/70/EC [1], including its Amendments [2] [3] [4],  $\boxed{A1}$  [11]  $\boxed{A1}$  refers to test methods in

**EN 228:2012+A1:2017 (E)**

EN 228:2004, 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.

- Removal of the allowance for 50 mg/kg sulfur content.
- Reference to the revised ethanol specification EN 15376.

**A1**) The marking at the pump of this product is in line with the requirements of the Fuels Quality Directive and the Alternative Fuels Infrastructure Directive [12]. **A1**)

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.