

Automotive fuels - Assessment of petrol and diesel quality - Fuel quality monitoring system (FQMS)

EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

S E	E	EVS-EN 14274:2013 EN 14274:2013	E E	EVS-EN 14274:2013 E	EN
S		EVS	S		E
E E		13 02 2013	13 02 2013	E	
S		E S	S	E	

EVS-

-

S 7 1 0 20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

E S
10 10317 E 0 0 0 - E S :

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

N
E S
10 10317 E 0 0 0 - S :

EVS

English Version

Automotive fuels - Assessment of petrol and diesel quality - Fuel quality monitoring system (FQMS)

Carburants pour automobiles - Evaluation de la qualité de l'essence et du carburant pour moteur diesel (gazole) - Système de suivi de la qualité des carburants (FQMS)

Kraftstoffe für Kraftfahrzeuge - Ermittlung der Qualität von Ottokraftstoff und Dieselloststoff - System zum Kraftstoffqualitätsnachweis (FQMS)

This European Standard was approved by CEN on 8 December 2012.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Information required to set up the FQMS	6
5 Setting up the FQMS	6
6 Procedure	9
7 Final report	10
Annex A (informative) Establishing the number of samples to be taken	11
A.1 Basic criteria	11
A.2 Precision	11
Annex B (normative) Acceptance criteria for laboratories to be used in the FQMS	12
B.1 Assessment of the laboratory	12
B.2 Member of an inter-laboratory correlation scheme	12
B.3 Review of inter-laboratory correlation scheme test results	12
Annex C (informative) FQMS Design - Using models A, B, C	13
C.1 Model A (Example Italy)	13
C.2 Model B (Example Germany)	14
C.3 Model C (Example Luxembourg)	16
Annex D (normative) Process flowchart	17
Annex E (Informative) Recommended reporting formats for the final report	19
E.1 Introduction	19
E.2 General section	19
E.3 Analytical section	19
E.4 Macro Region Approach	22
Bibliography	25

EVS

Foreword

This document (EN 14274:2013) 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.

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 August 2013, and conflicting national standards shall be withdrawn at the latest by August 2013.

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 14274:2003.

This document had originally been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. In line with the recent Amendments [3] and [4] to EU Directive 98/70/EC [1], [2], mainly the additional reporting requirement for manganese, the need to update the original document came forward.

This European Standard, which makes use of statistical reasoning, describes a fuel quality monitoring system (FQMS) which may be applied to assess quality of fuels being placed on the market in a European Member State in relation to the European Directive 98/70/EC [1] and its amendments, 2003/17/EC [2], 2009/30/EC [3] and 2011/63/EU [4]. For the purpose of this European Standard, each European Member State is regarded as the smallest unit for which the results of the monitoring system are representative.

Therefore, this European Standard cannot be used without considerable adjustment for the representative monitoring of fuel quality in a specific region nor for a specific distribution chain nor for policing purposes, as the statistical reasoning, which forms the basis for this European Standard, may not be valid for these purposes. The required adjustments for an extension of the monitoring system are rather complex. They are beyond the scope of this European Standard and are therefore not included here. The provisions in this European Standard may, however, in principle be extended to allow for additional purposes.

For several specific parameters, the European fuel specifications in EN 228 and EN 590 request that each country selects limiting values from a given set of values and specifies these country specific limiting values in the corresponding normative annex to EN 228 and EN 590 in order to adjust for geographic and climatic factors. These values may differ from country to country. Therefore, for these specific parameters, also the results obtained in this monitoring system will differ from country to country.

The minimum number of samples that are to be drawn is based on the information and comprehensive statistical analysis available at the time of publication of this European Standard. A statistical explanation on how the different statistical models and minimum samples numbers were achieved will be added as an informative annex to this document at a later stage. As more information becomes available, the number of samples required may change. For this reason this European Standard will be reviewed from time to time.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard describes a fuel quality monitoring system (FQMS) for assessing the quality of petrol and automotive diesel fuel placed on the market in any of the Member States within the European Community.

European Directive 98/70/EC [1] requires that every separate nationally defined fuel grade should comply with one specification as defined in the Directive. Therefore, for each nationally defined fuel grade, there will be a corresponding European parent fuel grade. For instance, unleaded petrol grades placed on the market in Europe can be 91, 95, 98 RON petrol. See also the example discussed in 5.4.2.

Some basic background ideas behind the FQMS are given in Annex A.

Since the specifications for automotive fuels contain climatic related requirements, the FQMS is run twice a year, once during the winter period and once during the summer period. Information about the dates for the summer and winter periods in a specific country are defined in the country's national annex to EN 228 and EN 590. Fuel samples taken during transition periods shall not be included in the FQMS.

For the purposes of this FQMS, grades of petrol that constitute less than 10% of the total amount of petrol placed on the market in any one country, and grades of automotive diesel fuels that constitute less than 10% of the total amount of automotive diesel fuel dispensed in any country may require separate handling as described in Clause 5 of this European Standard.

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 228, *Automotive fuels — Unleaded petrol — Requirements and test methods*

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

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

EN ISO 4259, *Petroleum products — Determination and application of precision data in relation to methods of test (ISO 4259)*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

3.1 fuel grade

specific automotive fuel quality of petrol or of diesel fuel for which there exists specifications in:

- a) European Directive 98/70/EC [1] and its subsequent amendments [2], [3] and [4]; or
- b) national implementations of EN 228 and EN 590; or other EN automotive fuel standards, or
- c) other national automotive fuel standards