

Petroleum and related products - Precision of measurement methods and results - Part 3: Monitoring and verification of published precision data in relation to methods of test (ISO 4259-3:2020)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 4259-3:2020 sisaldab Euroopa standardi EN ISO 4259-3:2020 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 4259-3:2020 consists of the English text of the European standard EN ISO 4259-3:2020.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 05.02.2020.	Date of Availability of the European standard is 05.02.2020.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Petroleum and related products - Precision of  
measurement methods and results - Part 3: Monitoring  
and verification of published precision data in relation to  
methods of test (ISO 4259-3:2020)

Produits pétroliers et connexes - Fidélité des méthodes  
de mesure et de leurs résultats - Partie 3: Surveillance  
et vérification des données de fidélité publiées  
relatives aux méthodes d'essai (ISO 4259-3:2020)

Mineralölerzeugnisse - Präzision von Messverfahren  
und Ergebnissen - Teil 3: Monitoring und Management  
der Präzisionsdaten in Bezug auf Prüfverfahren (ISO  
4259-3:2020)

This European Standard was approved by CEN on 11 January 2020.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

## European foreword

This document (EN ISO 4259-3:2020) has been prepared by Technical Committee ISO/TC 28 "Petroleum and related products, fuels and lubricants from natural or synthetic sources" in collaboration with 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 2020, and conflicting national standards shall be withdrawn at the latest by August 2020.

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.

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## Endorsement notice

The text of ISO 4259-3:2020 has been approved by CEN as EN ISO 4259-3:2020 without any modification.

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 28, *Petroleum and related products, fuels and lubricants from natural or synthetic sources*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 19, *Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 4259 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

ISO 4259-1 specifies the methodology for the design, execution and data processing of a one-time snapshot statistical study to arrive at precision estimates achieved by a random sampling of laboratories. This snapshot estimate is published in the standard test method as the expected precision.

This document explains the methodology for the utilisation of proficiency testing schemes (as defined in ISO 4259-2) to test the hypothesis that the precision achieved by the laboratories in the proficiency testing scheme is statistically consistent with the published precision derived from the ISO 4259-1 study described above. It is therefore a logical follow-up on the other parts.

# Petroleum and related products — Precision of measurement methods and results —

## Part 3:

## Monitoring and verification of published precision data in relation to methods of test

### 1 Scope

This document specifies the methodology for the regular monitoring of the test method precision achieved versus the precision published in the standard test method using data from proficiency testing schemes (PTSs) supported by the regular users of standard test methods.

The procedures in this document are designed specifically for proficiency testing (PT) conducted on standard test methods, having a published reproducibility, for petroleum and petroleum-related products, which are presumed to be homogeneous, and where the data distribution is approximately normal. In addition, it is applicable to properties of interest that are (known to be) stable over time and transport.

This document specifies the methodology for the statistical comparison of standard deviation under reproducibility conditions achieved in PT programmes versus that published.

The purpose of this comparison is to find out if the published reproducibility precision is representative of that achievable by the regular participants in the PT programmes.

This document also provides guidance on how to use a PT z-score to monitor an individual participant's performance over time (see [Annex B](#)).

### 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.

ISO 4259-1, *Petroleum and related products — Precision of measurement methods and results — Part 1: Determination of precision data in relation to methods of test*

ISO 13528:2015, *Statistical methods for use in proficiency testing by interlaboratory comparison*

ISO/IEC 17043, *Conformity assessment — General requirements for proficiency testing*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4259-1, ISO 13528, ISO/IEC 17043 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>