



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

*Produits pétroliers et connexes — Fidélité des méthodes de
mesure et de leurs résultats —*

*Partie 1: Détermination des valeurs de fidélité relatives aux
méthodes d'essai*

**Second edition
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This second edition cancels and replaces the first edition (ISO 4259-1:2017), which has been technically revised. It also incorporates the Amendments ISO 4259-1:2017/Amd 1:2019 and ISO 4259-1:2017/Amd 2:2020.

The main changes are as follows:

- in [4.4](#), the sufficient number of samples in the ILS has been modified to at least six;
- in [4.4](#), [Formula \(2\)](#) has been modified to ensure that no sample has a leverage exceeding $4/n_t$;
- in [Annex B](#), the explanation for choosing 30 as minimum degrees of freedom has been improved.

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For purposes of quality control and to check conformity with specifications, the properties of commercial petroleum products are assessed by standard laboratory test methods. Two or more measurements of the same property of a specific sample by a specific test method, or, by different test methods that purport to measure the same property, will not usually give exactly the same result. It is therefore necessary to take proper account of this fact, by arriving at statistically based estimates of the precision for a method, i.e. an objective measure of the degree of agreement expected between two or more results obtained in specified circumstances.

The ISO 4259 series encompasses both the derivation of precision estimates and the application of precision data. The ISO 4259 series combines the information in ASTM D6300^[4] regarding the determination of the precision estimates and the information in ASTM D3244^[3] for the utilization of test data.

Careful investigations should be carried out before applying this document to products for which the assumption of homogeneity can be questioned.

A glossary of the variables used in this document and ISO 4259-2^[1] is included for information as [Annex I](#).