Designation: D 6300 – 04

An American National Standard

Standard Practice for Determination of Precision and Bias Data for Use in Test Methods for Petroleum Products and Lubricants[1]

This standard is issued under the fixed designation D 6300; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

INTRODUCTION

Both Research Report RR:D02–1007, *Manual on Determining Precision Data for ASTM Methods on Petroleum Products and Lubricants*[2] and the ISO 4259, benefitted greatly from more than 50 years of collaboration between ASTM and the Institute of Petroleum (IP) in the UK. The more recent work was documented by the IP and has become ISO 4259.

ISO 4259 encompasses both the determination of precision and the application of such precision data. In effect, it combines the type of information in RR:D02–1007[2] regarding the determination of the precision estimates and the type of information in Practice D 3244 for the utilization of test data. The following practice, intended to replace RR:D02–1007,[2] differs slightly from related portions of the ISO standard. This new practice is consistent with the computer software, ADJD6300 D2PP, Version 4.43, Determination of Precision and Bias Data for Use in Test Methods for Petroleum Products.

1. Scope

1.1 This practice covers the necessary preparations and planning for the conduct of interlaboratory programs for the development of estimates of precision (determinability, repeatability, and reproducibility) and of bias (absolute and relative), and further presents the standard phraseology for incorporating such information into standard test methods.

1.2 This practice is generally limited to homogeneous products with which serious sampling problems do not normally arise.

1.3 This practice may not be suitable for solid or semisolid products such as petroleum coke, industrial pitches, paraffin waxes, greases, or solid lubricants when the heterogeneous properties of the substances create sampling problems. In such instances, use Practice E 691 or consult a trained statistician.

1.4 A software program (ADJD6300) performs the necessary computations prescribed by this practice.

2. Referenced Documents

2.1 *ASTM Standards:* [3]

D 123 Terminology Relating to Textiles

D 3244 Practice for Utilization of Test Data to Determine Conformance with Specifications

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E 456 Terminology Relating to Quality and Statistics

E 691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

2.2 *ISO Standards:*

ISO 4259 Petroleum Products-Determination and Application of Precision Data in Relation to Methods of Test[4]

2.3 *ASTM Adjuncts:*

ADJD6300 D2PP, Version 4.43, Determination of Precision and Bias Data for Use in Test Methods for Petroleum Products[5]

[1] This practice is under the jurisdiction of ASTM Committee D02 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.94 on Quality Assurance and Statistics.

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[2] Supporting data have been filed at ASTM International Headquarters and may be obtained by requesting Research Report RR:D02–1007.

[3] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[4] Available from International Organization for Standardization, 1 rue de Varembé, Case postale 56, CH-1211 Geneva 20, Switzerland.

[5] Available from ASTM International Headquarters. Order Adjunct No. ADJD6300.

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