



Designation: **D 3338 – 9500**

An American National Standard

Standard Test Method for Estimation of Net Heat of Combustion of Aviation Fuels¹

This standard is issued under the fixed designation D 3338; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This test method covers the estimation of the net heat of combustion (megajoules per kilogram or Btu per pound) of aviation gasolines and aircraft turbine and jet engine fuels.

1.2 This test method is purely empirical and is applicable to liquid hydrocarbon fuels that conform to the specifications for aviation gasolines or aircraft turbine and jet engine fuels of grades Jet A, Jet A-1, Jet B, JP-4, JP-5, JP-7, and JP-8.

NOTE 1—The experimental data on heat of combustion from which the Test Method D 3338 correlation was devised was obtained by a precision method similar to Test Method D 4809.

NOTE 2—The estimation of the net heat of combustion of a hydrocarbon fuel is justifiable only when the fuel belongs to a well-defined class for which a relation between heat of combustion and aromatic and sulfur contents, density, and distillation range of the fuel has been derived from accurate experimental measurements on representative samples of that class. Even in this case, the possibility that the estimates may be in error by large amounts for individual fuels should be recognized. The fuels used to establish the correlation presented in this method are defined as follows:

Fuels:

¹ This test method is under the jurisdiction of ASTM Committee D-2 D02 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.05.B on Calorimetry of Liquid Hydrocarbon Fuels.

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