This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

Designation: D7566 – 23b

# Standard Specification for Aviation Turbine Fuel Containing Synthesized Hydrocarbons[1]

This standard is issued under the fixed designation D7566; 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 U.S. Department of Defense.*

## 1. Scope*

1.1 This specification covers the manufacture of aviation turbine fuel that consists of conventional and synthetic blending components.

1.2 See Appendix X2 for an expanded description of the procedure for the production and blending of synthetic blend components.

1.3 This specification applies only at the point of batch origination, as follows:

1.3.1 Aviation turbine fuel manufactured, certified, and released to all the requirements of Table 1 of this specification (D7566), meets the requirements of Specification D1655 and shall be regarded as Specification D1655 turbine fuel. Duplicate testing is not necessary; the same data may be used for both D7566 and D1655 compliance. Once the fuel is released to this specification (D7566) the unique requirements of this specification are no longer applicable: any recertification shall be done in accordance with Table 1 of Specification D1655.

1.3.2 Any location at which blending of synthetic blending components specified in Annex A1 (FT SPK), Annex A2 (HEFA SPK), Annex A3 (SIP), Annex A4 synthesized paraffinic kerosine plus aromatics (SPK/A), Annex A5 (ATJ), Annex A6 catalytic hydrothermolysis jet (CHJ), Annex A7 (HC-HEFA SPK), or Annex A8 (ATJ-SKA) with D1655 fuel (which may on the whole or in part have originated as D7566 fuel) or with conventional blending components takes place shall be considered batch origination in which case all of the requirements of Table 1 of this specification (D7566) apply and shall be evaluated. Short form conformance test programs commonly used to ensure transportation quality are not sufficient. The fuel shall be regarded as D1655 turbine fuel after certification and release as described in 1.3.1.

1.3.3 Once a fuel is redesignated as D1655 aviation turbine fuel, it can be handled in the same fashion as the equivalent refined D1655 aviation turbine fuel.

1.4 This specification defines the minimum property requirements for aviation turbine fuel that contain synthesized hydrocarbons and lists acceptable additives for use in civil operated engines and aircrafts. Specification D7566 is directed at civil applications, and maintained as such, but may be adopted for military, government, or other specialized uses.

1.5 This specification can be used as a standard in describing the quality of aviation turbine fuel from production to the aircraft. However, this specification does not define the quality assurance testing and procedures necessary to ensure that fuel in the distribution system continues to comply with this specification after batch certification. Such procedures are defined elsewhere, for example in ICAO 9977, EI/JIG Standard 1530, JIG 1, JIG 2, API 1543, API 1595, and ATA-103, and IATA Guidance Material for Sustainable Aviation Fuel Management.

1.6 This specification does not include all fuels satisfactory for aviation turbine engines. Certain equipment or conditions of use may permit a wider, or require a narrower, range of characteristics than is shown by this specification.

1.7 While aviation turbine fuels defined by Table 1 of this specification can be used in applications other than aviation turbine engines, requirements for such other applications have not been considered in the development of this specification.

1.8 Synthetic blending components and blends of synthetic blending components with conventional petroleum-derived fuels in this specification have been evaluated and approved in accordance with the principles established in Practice D4054.

1.9 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.10 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

[1] This specification is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.J0.06 on Synthetic Aviation Turbine Fuels.

Current edition approved Oct. 1, 2023. Published November 2023. Originally approved in 2009. Last previous edition approved in 2023 as D7566 – 23a. DOI: 10.1520/D7566-23B.

***A Summary of Changes section appears at the end of this standard**

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