



Designation: D7717 – 11

Standard Practice for Preparing Volumetric Blends of Denatured Fuel Ethanol and Gasoline Blendstocks for Laboratory Analysis¹

This standard is issued under the fixed designation D7717; 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.

1. Scope

1.1 This practice covers and provides instructions on making a volumetric blend of denatured fuel ethanol with gasoline blendstocks, such as a reformulated gasoline blendstock for oxygenate blending (RBOB) or a conventional gasoline blendstock for oxygenate blending (CBOB).

1.2 This practice does not preclude the use of automated volumetric blending systems.

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

1.4 *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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D4806 Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel

D4814 Specification for Automotive Spark-Ignition Engine Fuel

D4815 Test Method for Determination of MTBE, ETBE, TAME, DIPE, tertiary-Amyl Alcohol and C₁ to C₄ Alcohols in Gasoline by Gas Chromatography

D5501 Test Method for Determination of Ethanol Content of Denatured Fuel Ethanol by Gas Chromatography

D5599 Test Method for Determination of Oxygenates in Gasoline by Gas Chromatography and Oxygen Selective Flame Ionization Detection

2.2 *Federal Standard:*³

CFR 40.80 Title 40—Protection of Environment, Chapter 1—Environmental Protection Agency (continued), Part 80—Regulation of Fuels and Fuel Additives, Subpart D—Reformulated Gasoline

3. Terminology

3.1 *Definitions:*

3.1.1 *denaturants, n*—materials added to ethanol to make it unsuitable for beverage use under a formula approved by a regulatory agency to prevent the imposition of beverage alcohol tax. **D4806**

3.1.2 *denatured fuel ethanol, n*—fuel ethanol made unfit for beverage use by the addition of denaturants under formula(s) approved by the applicable regulatory agency to prevent the imposition of beverage alcohol tax. **D4806**

3.1.3 *gasoline, n*—volatile mixture of liquid hydrocarbons, generally containing small amounts of additives, suitable for use as a fuel in spark-ignition, internal combustion engines. **D4814**

3.1.4 *gasoline-alcohol blend, n*—fuel consisting primarily of gasoline along with a substantial amount (more than 0.35 mass % oxygen or more than 0.15 mass % oxygen if methanol is the only oxygenate) of one or more alcohols. **D4814**

3.2 *Abbreviations:*

3.2.1 *CBOB*—conventional gasoline blendstock for oxygenate blending.

3.2.2 *RBOB*—reformulated gasoline blendstock for oxygenate blending.

4. Summary of Practice

4.1 A specific measured volume of denatured fuel ethanol is blended with a gasoline blendstock to achieve a final blend of a predetermined percentage of denatured fuel ethanol. The blend shall be prepared with all components and apparatus chilled. The total volume of the blend prepared is dependent upon the volume needed to complete required testing.

³ Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, <http://www.access.gpo.gov>.

¹ This practice is under the jurisdiction of ASTM Committee D02 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.04.0A on Preparation of Standard Hydrocarbon Blends.

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² 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.