§ 80.46 Measurement of reformulated gasoline and conventional gasoline fuel parameters.

(a) Sulfur. Sulfur content of gasoline and butane must be determined by use of the following methods:

(1) Through December 31, 2015, the sulfur content of gasoline must be determined by ASTM D2622 or by one of the alternative test methods specified in paragraph (a)(3) of this section. Beginning January 1, 2016, the sulfur content of gasoline must be determined by a test method approved under § 80.47.

(2) Through December 31, 2015, the sulfur content of butane must be determined by ASTM D6667 or by one of the alternative test methods specified in paragraph (a)(4) of this section.

(3) Through December 31, 2015, any refiner or importer may use ASTM D3120, ASTM D5453, ASTM D6920, or ASTM D7039 for determining the sulfur content of gasoline provided the refiner or importer test result is correlated with the method specified in paragraph (a)(1) of this section.

(4) Beginning January 1, 2016, the sulfur content of butane must be determined by a test method approved under § 80.47. Through December 31, 2015, any refiner or importer may use ASTM D4468 or ASTM D3246 for purposes of meeting any testing requirements involving sulfur content, provided that the refiner or importer test result is correlated with the method specified in paragraph (a)(2) of this section.

(b) Olefins. Olefin content must be determined by use of the following methods:

(1) Through December 31, 2015, olefin content must be determined using ASTM D1319. Beginning January 1, 2016, the olefin content of gasoline may be determined by a test method approved under § 80.47.

(2) Through December 31, 2015, any refiner or importer may determine olefin content using ASTM D6550 for purposes of meeting any testing requirements involving olefin content, provided that the refiner or importer test result is correlated with the method specified in paragraph (b)(1) of this section on a site-specific basis, in order to achieve an unbiased prediction of the result in volume percent, for the method specified in paragraph (b)(1) of this section.

(c) Reid Vapor Pressure (RVP). (1) Through December 31, 2015, Reid Vapor Pressure must be determined using ASTM D5191, except the following correction equation must be used:

\[
\begin{align*}
\text{RVP psi} &= (0.956 \times X) - 0.347 \\
\text{RVP kPa} &= (0.956 \times X) - 2.39
\end{align*}
\]

Where:

\[X = \text{Total measured vapor pressure, in psi or kPa} \]

(2) Beginning January 1, 2016, RVP may be determined by a test method approved under § 80.47, except as provided in paragraph (c)(2)(i) of this section.

(i) For reporting purposes, the RVP test result computed from § 80.47 must continue to utilize the RVP correction equation in paragraph (c)(1) of this section.

(ii) [Reserved]

(d) Distillation. Through December 31, 2015, distillation parameters must be determined using ASTM D86. Beginning January 1, 2016, the distillation parameters may be determined by a test method approved under § 80.47.

(e) Benzene. Through December 31, 2015, benzene content must be determined using ASTM D3606, except that instrument parameters shall be adjusted to ensure complete resolution of the benzene, ethanol and methanol peaks because ethanol and methanol may cause interference with ASTM D3606 when present. Beginning January 1, 2016, the benzene content may be determined by a test method approved under § 80.47.

(f)(1) Through December 31, 2015, aromatic content must be determined using ASTM D5769, except the sample chilling requirements in section 8 of this standard method are optional. Beginning January 1, 2016, the aromatic content may be determined by a test method approved under § 80.47.

(f)(2) [Reserved]

(3) Through December 31, 2015, any refiner or importer may determine aromatics content using ASTM D1319 for the purposes of meeting any test requirement involving aromatic content; provided that the refiner or importer test result is correlated with the method specified in paragraph (f)(1) of this section.

655
(g) Oxygen and oxygenate content analysis. (1) Through December 31, 2015, oxygen and oxygenate content must be determined using ASTM D5599. Beginning January 1, 2016, oxygen and oxygenate content may be determined by a test method approved under §80.47.

(2) Through December 31, 2015, when oxygenates present are limited to MTBE, ETBE, TAME, DIPE, tertiary-amyl alcohol and C1 to C4 alcohols, any refiner, importer, or oxygenate blender may determine oxygen and oxygen content using ASTM D4815 for purposes of meeting any testing requirement; provided that the refiner or importer test result is correlated with the method specified in paragraph (g)(1) of this section.

(h) Materials incorporated by reference. The published materials identified in this section are incorporated by reference into this section with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, a document must be published in the Federal Register and the material must be available to the public. All approved materials are available for inspection at the Air and Radiation Docket and Information Center (Air Docket) in the EPA Docket Center (EPA/DC) at Rm. 3334, EPA West Bldg., 1301 Constitution Ave. NW, Washington, DC. The EPA/DC Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number of the EPA/DC Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742. These approved materials are also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741–6030 or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. In addition, these materials are available from the sources listed below.

(1) ASTM International material. The following standards are available from ASTM International, 100 Barr Harbor Dr., P.O. Box C700, West Conshohocken, PA 19428–2959, (877) 909–ASTM, or http://www.astm.org:


Environmental Protection Agency


All sample handling, testing procedures, and tests must be conducted using good laboratory practices.

(a) Definitions. As used in this subpart D:

(1) Performance-based Analytical Test Method Approach means a measurement system based upon established performance criteria for accuracy and precision with use of analytical test methods. As used in this subpart, this is a measurement system used by laboratories to demonstrate that a particular analytical test method is acceptable for demonstrating compliance.

(2) Accuracy means the closeness of agreement between an observed value from a single test measurement and an accepted reference value.

(3) Precision means the degree of agreement in a set of measurements performed on the same property of identical test material.

(4) Absolute fuel parameter means a fuel parameter for which a gravimetric standard is practical to construct and use. Sulfur content of gasoline, butane, or diesel fuel are examples of an absolute fuel parameter.

(5) Gravimetric standard means a test material made by adding a carefully weighed quantity of the analyte to a measured quantity of another substance known not to contain any of the analyte, resulting in a solution with an accurately known concentration of the analyte.

(6) Consensus named fuels are homogeneous quantities of fuel that have been analyzed by a number of different laboratories (by sending around small samples). The average concentration of some parameter of interest across all of the different laboratories is then used as the “consensus name” for that material.

(7) Locally-named reference materials are gasoline or diesel fuels that are usually from the regular production of the facility where they are used in laboratory quality control efforts and have been analyzed using the designated method (either by the facility’s lab or by a referee lab) to obtain an estimate of their concentration.

(8) Method-defined fuel parameter means a fuel parameter for which an EPA-prescribed primary test method or designated method defines the regulatory standard. Examples of method-defined fuel parameters include olefin content in gasoline, Reid vapor pressure (RVP) of gasoline, distillation parameters of gasoline, benzene content of gasoline, aromatic content of gasoline, and diesel fuel, and oxygen/oxygenates content of gasoline.

(9) Reference installations are designated test method installations that are used to qualify the accuracy of other method-defined parameter instruments. Reference installations of the designated test method will be used to evaluate the accuracy of other