Manual of Petroleum Measurement Standards Chapter 8.4

Standard Practice for Sampling and Handling of Fuels for Volatility Measurement

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Contents

Designation: D5842 – 14

Manual of Petroleum Measurement Standards (MPMS) Chapter 8.4

Standard Practice for Sampling and Handling of Fuels for Volatility Measurement[1]

This standard is issued under the fixed designation D5842; 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 procedures and equipment for obtaining, mixing, and handling representative samples of volatile fuels for the purpose of testing for compliance with the standards set forth for volatility related measurements applicable to light fuels. The applicable dry vapor pressure equivalent range of this practice is 13 to 105 kPa (2 to 16 psia).

1.2 This practice is applicable to the sampling, mixing, and handling of reformulated fuels including those containing oxygenates.

1.3 The values stated in SI units are to be regarded as the standard except in some cases where drawings may show inch-pound measurements which are customary for that equipment.

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]

D4057 Practice for Manual Sampling of Petroleum and Petroleum Products (API *MPMS* Chapter 8.1)

D4177 Practice for Automatic Sampling of Petroleum and Petroleum Products (API *MPMS* Chapter 8.2)

D5854 Practice for Mixing and Handling of Liquid Samples of Petroleum and Petroleum Products (API *MPMS* Chapter 8.3)

D7717 Practice for Preparing Volumetric Blends of Denatured Fuel Ethanol and Gasoline Blendstocks for Laboratory Analysis

2.2 *API Standards:*[3]

MPMS Chapter 8.1—Practice for Manual Sampling of Petroleum and Petroleum Products (ASTM Practice D4057)

MPMS Chapter 8.2—Practice for Automatic Sampling of Petroleum and Petroleum Products (ASTM Practice D4177)

MPMS Chapter 8.3—Practice for Mixing and Handling of Liquid Samples of Petroleum and Petroleum Products (ASTM Practice D5854)

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *bottom sample, n*—a sample obtained from the material at the bottom of the tank, container, or line at its lowest point.

3.1.1.1 *Discussion*—In practice the term bottom sample has a variety of meanings. As a result, it is recommended that the exact sampling location (for example, 15 cm [6 in.] from the bottom) should be specified when using this term.

3.1.2 *dead legs, n*—sections of pipe that, by design, do not allow for the flow of material through them.

3.1.2.1 *Discussion*—Dead legs are not suitable for obtaining representative samples.

3.1.3 *relief lines, n*—sections of pipe that lead to a pressure/vacuum relief valve.

3.1.3.1 *Discussion*—Relief lines are not suitable for obtaining representative samples.

3.1.4 *stand pipes, n*—vertical sections of pipe or tubing extending from the gaging platform to near the bottom of tanks that are equipped with external or internal floating roofs. Stand pipes also may be found on ships and barges.

3.1.4.1 *Discussion*—Stand pipes which are not slotted or perforated will not yield representative samples. Further information on proper stand pipe design is given in 6.4.3.

[1] This practice is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and the API Committee on Petroleum Measurement, and is the direct responsibility of Subcommittee D02.02 /COMQ on Hydrocarbon Measurement for Custody Transfer (Joint ASTM-API). This practice has been approved by the sponsoring committees and accepted by the Cooperating Societies in accordance with established procedures. This practice was issued as a joint ASTM-API standard in 1995.

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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.

[3] Available from American Petroleum Institute (API), 1220 L. St., NW, Washington, DC 20005-4070, http://www.api.org.

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