Designation: D5854 – 96 (Reapproved 2015)

Manual of Petroleum Measurement Standards (MPMS), Chapter 8.3

Standard Practice for Mixing and Handling of Liquid Samples of Petroleum and Petroleum Products[1]

This standard is issued under the fixed designation D5854; 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 the handling, mixing, and conditioning procedures that are required to ensure that a representative sample of the liquid petroleum or petroleum product is delivered from the primary sample container/receiver into the analytical test apparatus or into intermediate containers.

1.2 Annex A2 covers acceptance test criteria for power mixer and sample container combinations, while Annex A3 and Annex A4 detail acceptance tests for mixing systems. Appendix X1 is a guide for selecting sample containers.

1.3 For sampling procedures, refer to Practices D4057 (API *MPMS* Chapter 8.1) and D4177 (API *MPMS* Chapter 8.2). Practice D5842 (API *MPMS* Chapter 8.4) covers sampling and handling of light fuels for volatility measurement.

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

D4177 Practice for Automatic Sampling of Petroleum and Petroleum Products

D4306 Practice for Aviation Fuel Sample Containers for Tests Affected by Trace Contamination

D4928 Test Method for Water in Crude Oils by Coulometric Karl Fischer Titration

D5842 Practice for Sampling and Handling of Fuels for Volatility Measurement

2.2 *API Documents:*[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 8.4 Practice for Sampling and Handling of Fuels for Volatility Measurement (ASTM Practice D5842)

MPMS Chapter 10.9 Test Method for Water in Crude Oils by Coulometric Karl Fischer Titration (ASTM Test Methods D4928)

Recommended Practice 2003, Protection Against Ignitions Arising Out of Static, Lighting, and Stray Currents

Publication 2026, Safe Access/Egress Involving Floating Roofs of Storage Tanks in Petroleum Service

Publication 2217, Guideline for Confined Space Work in the Petroleum Industry

2.3 *Department of Transportation:*[4]

Code of Federal Regulations, Title 49, Section 173

2.4 *Occupational Safety and Health Standards:*[4]

29 Code of Federal Regulations, Subpart Z, "Toxic and Hazardous Substances," Part 1910.1000 and following

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *intermediate container*—the vessel into which all or part of the sample from a primary container/receiver is transferred for transport, storage, or ease of handling.

3.1.2 *petroleum*—denotes petroleum crudes, as well as petroleum products, normally associated with the petroleum industry.

[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 D02.02.08 the joint ASTM-API committee on Sampling (API MPMS Chapter 8.0).

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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.

[4] Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

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