

Standard Guide for Sediment and Water Determination in Crude Oil¹

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^{ε1} NOTE—API information was added editorially in September 2013.

1. Scope

1.1 This guide covers a summary of the water and sediment determination methods from the API MPMS Chapter 10 for crude oils. The purpose of this guide is to provide a quick reference to these methodologies such that the reader can make the appropriate decision regarding which method to use based on the associated benefits, uses, drawbacks and limitations.

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

1.3 *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

- D473 Test Method for Sediment in Crude Oils and Fuel Oils by the Extraction Method (API MPMS Chapter 10.1)
- D4006 Test Method for Water in Crude Oil by Distillation (API MPMS Chapter 10.2)
- D4007 Test Method for Water and Sediment in Crude Oil by the Centrifuge Method (Laboratory Procedure) (API MPMS Chapter 10.3)
- 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)

¹ This guide 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, the joint ASTM-API Committee on Hydrocarbon Measurement for Custody Transfer (Joint ASTM-API).

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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.

D4377 Test Method for Water in Crude Oils by Potentiometric Karl Fischer Titration

D4807 Test Method for Sediment in Crude Oil by Membrane Filtration

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

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

2.2 API Standards:³

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

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

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

MPMS Chapter 10.1 Standard Test Method for Sediment in Crude Oils and Fuel Oils by the Extraction Method (ASTM D473)

MPMS Chapter 10.2 Standard Test Method for Water in Crude Oil by Distillation (ASTM D4006)

MPMS Chapter 10.3 Standard Test Method for Water and Sediment in Crude Oil by the Centrifuge Method (Laboratory Procedure) (ASTM D4007)

MPMS Chapter 10.4 Determination of Water and/or Sediment in Crude Oil by the Centrifuge Method (Field Procedure)

MPMS Chapter 10.7 Standard Test Method for Water in Crude Oils by Potentiometric Karl Fischer Titration (D4377)

MPMS Chapter 10.8 Standard Test Method for Sediment in Crude Oil by Membrane Filtration (D4807)

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

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