



Standard Test Method for Water and Sediment in Crude Oil by the Centrifuge Method (Laboratory Procedure)¹

This standard is issued under the fixed designation D 4007; 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 test method describes the laboratory determination of water and sediment in crude oils by means of the centrifuge procedure. This centrifuge method for determining water and sediment in crude oils is not entirely satisfactory. The amount of water detected is almost always lower than the actual water content. When a highly accurate value is required, the revised procedures for water by distillation, Test Method D 4006 (API MPMS Chapter 10.2) (Note 1), and sediment by extraction, Test Method D 473 (API MPMS Chapter 10.1), shall be used.

NOTE 1—Test Method D 4006 (API MPMS Chapter 10.2) has been determined to be the preferred and most accurate method for the determination of water.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

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. For specific precautionary statements, see 6.1.*

2. Referenced Documents

2.1 ASTM Standards:

D 95 Test Method for Water in Petroleum Products and Bituminous Materials by Distillation (API MPMS Chapter 10.5)²

D 473 Test Method for Sediment in Crude Oils and Fuel

Oils by the Extraction Method (API MPMS Chapter 10.1)²
D 665 Test Method for Rust-Preventing Characteristics of Inhibited Mineral Oil in the Presence of Water²

D 1796 Test Method for Water and Sediment in Fuel Oils by the Centrifuge Method (Laboratory Procedure) (API MPMS Chapter 10.6)²

D 4006 Test Method for Water in Crude Oil by Distillation (API MPMS Chapter 10.2)³

D 4057 Practice for Manual Sampling of Petroleum and Petroleum Products (API MPMS Chapter 8.1)³

D 4177 Practice for Automatic Sampling of Petroleum and Petroleum Products (API MPMS Chapter 8.2)³

D 5854 Practice for Mixing and Handling of Liquid Samples of Petroleum and Petroleum Products (API MPMS Chapter 8.3)⁴

E 969 Specification for Glass Volumetric (Transfer) Pipets⁵
2.2 API Standards:⁶

MPMS Chapter 8.1 Manual Sampling of Petroleum and Petroleum Products (ASTM Practice D 4057)

MPMS Chapter 8.2 Automatic Sampling of Petroleum and Petroleum Products (ASTM Practice D 4177)

MPMS Chapter 8.3 Mixing and Handling of Liquid Samples of Petroleum and Petroleum Products (ASTM Practice D 5854)

MPMS Chapter 10.1 Determination of Sediment in Crude Oils and Fuel Oils by the Extraction Method (ASTM Test Method D 473)

MPMS Chapter 10.2 Determination of Water in Crude Oil by Distillation (ASTM Test Method D 4006)

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

MPMS Chapter 10.5 Determination of Water in Petroleum Products and Bituminous Materials by Distillation (ASTM Test Method D 95)

¹ This test method is under the jurisdiction of ASTM Committee D02 on Petroleum Products 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 Static Petroleum Measurement.

Current edition approved Dec. 10, 2002. Published April 2003. Originally approved in 1981. Last previous edition approved in 1995 as D 4007–81(1995)^{ε1}.

This test method has been approved by the sponsoring committees and accepted by the Cooperating Societies in accordance with established procedures. This method was issued as a joint ASTM-API-IP standard in 1981.

² Annual Book of ASTM Standards, Vol 05.01.

³ Annual Book of ASTM Standards, Vol 05.02.

⁴ Annual Book of ASTM Standards, Vol 05.03.

⁵ Annual Book of ASTM Standards, Vol 14.02.

⁶ Available from the American Petroleum Institute, 1220 L St., NW, Washington, DC 20005.

