



Designation: D4006 – 07



Designation: Manual of Petroleum Measurement Standards (MPMS), Chapter 10.2

Designation: IP 358/97

Standard Test Method for Water in Crude Oil by Distillation¹

This standard is issued under the fixed designation D4006; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope*

1.1 This test method covers the determination of water in crude oil by distillation.

1.2 *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 warning statements, see 6.1 and A1.1.

2. Referenced Documents

2.1 ASTM Standards:²

D95 Test Method for Water in Petroleum Products and Bituminous Materials by Distillation

D96 Test Methods for Water and Sediment in Crude Oil by Centrifuge Method (Field Procedure) (API MPMS Chapter 10.4)³

D473 Test Method for Sediment in Crude Oils and Fuel Oils by the Extraction Method

D665 Test Method for Rust-Preventing Characteristics of Inhibited Mineral Oil in the Presence of Water

D1796 Test Method for Water and Sediment in Fuel Oils by the Centrifuge Method (Laboratory Procedure)

D4057 Practice for Manual Sampling of Petroleum and Petroleum Products (API MPMS Chapter 8.2)

E123 Specification for Apparatus for Determination of Water by Distillation

2.2 API Standards:

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

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

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

MPMS Chapter 10.4 Determination of Water and/or Sediment in Crude Oil by the Centrifuge Method (Field Procedure) (ASTM Test Method D96)

MPMS Chapter 10.5 Test Method for Water in Petroleum Products and Bituminous Materials by Distillation (ASTM Test Method D95)

MPMS Chapter 10.6 Test Method for Water and Sediment in Fuel Oils by the Centrifuge Method (Laboratory Procedure) (ASTM Test Method D1796)

3. Summary of Test Method

3.1 The sample is heated under reflux conditions with a water immiscible solvent which co-distills with the water in the sample. Condensed solvent and water are continuously separated in a trap—the water settles in the graduated section of the trap, and the solvent returns to the distillation flask.

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

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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 ASTM standard withdrawn.

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