



Standard Test Method for Solvent-Free Membrane Recoverable Oil and Grease by Infrared Determination¹

This standard is issued under the fixed designation D7575; 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 covers the determination of oil and grease in produced and waste water samples over the concentration range outlined in [Table 1](#) that can be extracted with an infrared-amenable membrane and measured by infrared transmission through the membrane.

1.2 This method defines oil and grease in water as that which is extractable in the test method and measured by infrared transmission.

1.3 The method detection limit (MDL) and recommended reporting range are listed in [Table 1](#).

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

1.5 *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

[D1129 Terminology Relating to Water](#)

[D1193 Specification for Reagent Water](#)

[D2777 Practice for Determination of Precision and Bias of Applicable Test Methods of Committee D19 on Water](#)

[D5847 Practice for Writing Quality Control Specifications for Standard Test Methods for Water Analysis](#)

[E168 Practices for General Techniques of Infrared Quantitative Analysis](#)

[E178 Practice for Dealing With Outlying Observations](#)

¹ This test method is under the jurisdiction of ASTM Committee [D19](#) on Water and is the direct responsibility of Subcommittee [D19.06](#) on Methods for Analysis for Organic Substances in Water.

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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.

2.2 EPA Standards³

[EPA Method 1664 Revision A: N-Hexane Extractable Material \(HEM; Oil and Grease\) and Silica Gel Treated N-Hexane Extractable Material \(SGT-HEM; Non-polar Material\) By Extraction and Gravimetry](#)

[40 CFR](#)

[49 CFR](#)

3. Terminology

3.1 *Definitions*—For definitions of terms used in this test method, refer to Terminology [D1129](#) and Practices [E168](#).

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *oil and grease, n*—“membrane-recoverable oil and grease” is a method-defined analyte; that is, the definition of membrane-recoverable oil and grease is dependent on the procedure used.

3.2.1.1 *Discussion*—The nature of the oils or greases (or both), and the presence of recoverable non-oily matter in the sample will influence the material measured and interpretation of results.

3.2.2 *extractor, n*—a device that contains an infrared-amenable oil-and-grease solid-phase-extraction-membrane and directs water flow through the membrane under applied pressure.

4. Summary of Test Method

4.1 This is a performance-based method and modifications are allowed to improve performance.

4.2 A sample of water is processed through an extractor.

4.3 The extractor is then sufficiently dried of water so as to allow infrared analysis.

4.4 The extractor is examined by an infrared analyzer for an oil and grease measurement.

4.5 Calibrations and data are processed manually or with appropriate software.

³ Available from United States Environmental Protection Agency (EPA), Ariel Rios Bldg., 1200 Pennsylvania Ave., NW, Washington, DC 20460, <http://www.epa.gov>.