



Designation: D7066 – 04 (Reapproved 2024)

Standard Test Method for dimer/trimer of chlorotrifluoroethylene (S-316) Recoverable Oil and Grease and Nonpolar Material by Infrared Determination¹

This standard is issued under the fixed designation D7066; 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 and nonpolar material in water and wastewater by an infrared (IR) determination of dimer/trimer of chlorotrifluoroethylene (S-316)² extractable substances from an acidified sample. Included in this estimation of oil and grease are any other compounds soluble in the solvent.

1.2 This test method is applicable to measurement of the light fuel although loss of some light ends during extraction can be expected.

1.3 This test method defines oil and grease in water and wastewater as that which is extractable in the test method and measured by IR absorption at 2930 cm^{-1} or $3.4\text{ }\mu\text{m}$. Similarly, this test method defines nonpolar material in water and wastewater as that oil and grease which is not adsorbed by silica gel in the test method and measured by IR absorption at 2930 cm^{-1} .

1.4 This test method covers the range of 5 mg/L to 100 mg/L and may be extended to a lower or higher level by extraction of a larger or smaller sample volume collected separately.

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

1.6 *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, health, and environmental practices and determine (Guide D3856) the applicability of regulatory limitations prior to use.*

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 The sole source of supply of the material S-316 known to the committee at this time is Horiba Instruments, Irvine, CA. If you are aware of alternative suppliers, please provide this information to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,¹ which you may attend.

1.7 This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 ASTM Standards:³

- 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
- D3370 Practices for Sampling Water from Flowing Process Streams
- D3856 Guide for Management Systems in Laboratories Engaged in Analysis of Water (Withdrawn 2024)⁴
- 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

3. Terminology

3.1 Definitions:

3.1.1 For definitions of terms used in this standard, refer to Terminology D1129 and Practices E168.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *nonpolar material, n*—the oil and grease remaining in solution after contact with silica gel and measured by this test method.

3.2.2 *oil and grease, n*—the organic matter extracted from water or wastewater and measured by this test method.

³ 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.

⁴ The last approved version of this historical standard is referenced on www.astm.org.