



Designation: D3326 – 07 (Reapproved 2017)

Standard Practice for Preparation of Samples for Identification of Waterborne Oils¹

This standard is issued under the fixed designation D3326; 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 practice covers the preparation for analysis of waterborne oils recovered from water. The identification is based upon the comparison of physical and chemical characteristics of the waterborne oils with oils from suspect sources. These oils may be of petroleum or vegetable/animal origin, or both. Seven procedures are given as follows:

	Sections
Procedure A (for samples of more than 50-mL volume containing significant quantities of hydrocarbons with boiling points above 280°C)	8 to 12
Procedure B (for samples containing significant quantities of hydrocarbons with boiling points above 280°C)	13 to 17
Procedure C (for waterborne oils containing significant amounts of components boiling below 280°C and to mixtures of these and higher boiling components)	18 to 22
Procedure D (for samples containing both petroleum and vegetable/animal derived oils)	23 to 27
Procedure E (for samples of light crudes and medium distillate fuels)	28 to 34
Procedure F (for thin films of oil-on-water)	35 to 39
Procedure G (for oil-soaked samples)	40 to 44

1.2 Procedures for the analytical examination of the waterborne oil samples are described in Practice D3415 and Test Methods D3328, D3414, and D3650. Refer to the individual oil identification test methods for the sample preparation method of choice. The deasphalting effects of the sample preparation method should be considered in selecting the best methods.

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

1.4 *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 the applicability of regulatory limitations prior to use.* Specific caution statements are given in Sections 6 and 32.

1.5 *This international standard was developed in accordance with internationally recognized principles on standard-*

ization 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:²

D95 Test Method for Water in Petroleum Products and Bituminous Materials by Distillation
D1129 Terminology Relating to Water
D1193 Specification for Reagent Water
D3325 Practice for Preservation of Waterborne Oil Samples
D3328 Test Methods for Comparison of Waterborne Petroleum Oils by Gas Chromatography
D3414 Test Method for Comparison of Waterborne Petroleum Oils by Infrared Spectroscopy
D3415 Practice for Identification of Waterborne Oils
D3650 Test Method for Comparison of Waterborne Petroleum Oils By Fluorescence Analysis
D4489 Practices for Sampling of Waterborne Oils
E1 Specification for ASTM Liquid-in-Glass Thermometers
E133 Specification for Distillation Equipment

3. Terminology

3.1 Definitions:

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

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *animal/vegetable-derived oils, n*—a mixture made of mono-, di-, and triglyceride esters of fatty acids and other substances of animal or vegetable origin, or both.

3.2.2 *simulated weathering of waterborne oils by distillation, n*—considers only the effect of evaporation, which likely is the most significant short-term weathering effect in the environment.

¹ This practice 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.