



Standard Test Method for Determination of Deposition of Aerially Applied Oil Spill Dispersants¹

This standard is issued under the fixed designation F1738; 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 measurement of the deposition of an aerially applied dispersant surrogate, typically dyed water, on the surface of the ground or water. The test method of obtaining these measurements is described, and the analysis of the results, in terms of dispersant use, is considered. There are a number of techniques that have been developed, and this test method outlines their application. These measurements can be used to confirm or verify the specifications of a given equipment set, its proper functioning, and use.

1.2 This test method is applicable to systems used with helicopters or airplanes.

1.3 This test method is one of four related to dispersant application systems. Guide [F1413_F1413](#) covers design, Practice [F1460/F1460M](#) covers calibration, Test Method F1738 covers deposition, and Guide [F1737/F1737M](#) covers the use of the systems. Familiarity with all four standards is recommended.

1.4 There are some exposure and occupational health concerns regarding the methods described. These are not discussed in this test method since they are a function of dispersant formulation. Anyone undertaking such experiments should consult the occupational health experts of the dispersant manufacturer regarding the precautions to be used.

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 and health practices and determine the applicability of regulatory limitations prior to use.*

¹ This test method is under the jurisdiction of ASTM Committee [F20](#) on Hazardous Substances and Oil Spill Response and is the direct responsibility of Subcommittee [F20.13](#) on Treatment.

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2. Referenced Documents

2.1 ASTM Standards:²

[E642](#) Practice for Determining Application Rates and Distribution Patterns from Aerial Application Equipment

[E1260](#) Test Method for Determining Liquid Drop Size Characteristics in a Spray Using Optical Nonimaging Light-Scattering Instruments

[F1413_F1413](#) Guide for Oil Spill Dispersant Application Equipment: Boom and Nozzle Systems

[F1460/F1460M](#) Practice for Calibrating Oil Spill Dispersant Application Equipment Boom and Nozzle Systems

[F1737/F1737M](#) Guide for Use of Oil Spill Dispersant Application Equipment During Spill Response: Boom and Nozzle Systems

2.2 ASAE/ASABE Standard:³

[ASAE/ASABE S561.1 \(R2013\)](#) Procedure for Measuring Drift Deposits from Ground, Orchard, and Aerial Sprayers - Standard by The American Society of Agricultural and Biological Engineers

3. Significance and Use

3.1 The deposition of an aerially applied dispersant is defined as the amount of an aerially applied dispersant that contacts the surface; whereas, application dosage (frequently referred to as application rate) is the amount of material that is released per unit area by the delivery system. The units of deposition are litres per hectare or U.S. gallons per acre. The deposition may differ from the application dosage (volume of material per unit area) for many reasons, such as, the effects of wind on the spray and the evaporation of the dispersant after it has been released from the aircraft.

3.2 This test method describes the measurement of the ability of a spray system to deposit a dispersant on oil. It is not intended that this test method be used at the time of a spill. These techniques are intended to determine the equipment

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 Available from American Society of Agricultural and Biological Engineers (ASABE), 2950 Niles Road, St. Joseph, MI 49085, <http://www.asabe.org>.