



Standard Test Method for Evaluation of Laundry Sanitizers and Disinfectants for Use in High Efficiency Washing Operations¹

This standard is issued under the fixed designation E2406; 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 is designed to evaluate sanitizing/disinfectant laundry detergents/additives for use in front loading high efficiency (HE) automatic clothes washing operations that typically utilize very low wash water volumes. This test method is designed to provide testing with representative vegetative bacteria but can also be designed to accommodate the testing of fungi and viruses.

1.2 This test method is intended to compliment Test Method E2274 and is to be used in the cases where this test method is determined to be the worse case scenario for product usage.

NOTE 1—Test Method E2274 is the recommended method to evaluate sanitizing/disinfectant laundry detergent/additives for use in traditional high wash water volume automatic clothes washing operations.

1.3 Knowledge of microbiological techniques is required for these procedures.

1.4 It is the responsibility of the investigator to determine whether Good Laboratory Practices (GLP) are required and to follow them where appropriate (see section 40 CFR, 160 or as revised).

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

NOTE 2—In this test method, metric units are used for all applications, except for distance, in which case inches are used.

1.6 Appropriate modifications to the test method may be required when the testing organisms are not specified herein.

1.7 *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 E35 on Pesticides, Antimicrobials, and Alternative Control Agents and is the direct responsibility of Subcommittee E35.15 on Antimicrobial Agents.

Current edition approved April 15, 2016. Published May 2016. Originally approved in 2004. Last previous edition approved in 2009 as E2406 – 09. DOI: 10.1520/E2406-16.

2. Referenced Documents

2.1 ASTM Standards:²

D1193 Specification for Reagent Water

E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

E1054 Test Methods for Evaluation of Inactivators of Antimicrobial Agents

E2274 Test Method for Evaluation of Laundry Sanitizers and Disinfectants

E2756 Terminology Relating to Antimicrobial and Antiviral Agents

2.2 Other Standards:

AATCC 70 Water Repellency; Tumble Jar Dynamic Absorption Test³

OSCPP 810.2400 : Disinfectants and Sanitizers for Use on Fabrics and Textiles – Efficacy Data Recommendations⁴

40 CFR, Part 160 Good Laboratory Practice Standards⁵

3. Terminology

3.1 For definitions of terms used in this test method refer to Terminology E2756.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *active antimicrobial ingredient*—a substance added to a formulation intended specifically for the inhibition or inactivation of microorganisms.

3.2.2 *antimicrobial agent(s)*—an active ingredient designed to suppress the growth or action of microorganisms.

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 Association of Textile Chemists and Colorists (AATCC), P.O. Box 12215, Research Triangle Park, NC 27709, <http://www.aatcc.org>.

⁴ Available from United States Environmental Protection Agency (EPA), Ariel Rios Bldg., 1200 Pennsylvania Ave., NW, Washington, DC 20460, <http://www.epa.gov>.

⁵ Available from U.S. Government Publishing Office Bookstore 710 North Capitol Street N.W. Washington, DC, <http://www.gpo.gov/about/bookstore.htm>