



Standard Test Method for Evaluating Relative Effectiveness of Antimicrobial Handwashing Formulations using the Palmar Surface and Mechanical Hand Sampling¹

This standard is issued under the fixed designation E2870; 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 and is designed to determine the relative effectiveness of antimicrobial handwashing agents in reducing transient microorganisms using a controlled hand-wash.

1.2 Knowledge of microbiological techniques is required for these procedures.

1.3 This test method is used to evaluate topical antimicrobial handwashing formulations.

1.4 Performance of this procedure requires the knowledge of regulations pertaining to the protection of human subjects (21 CFR Parts 50 and 56).

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.* For more specific precautionary statements, see 8.1.

2. Referenced Documents

2.1 ASTM Standards:²

E1054 Test Methods for Evaluation of Inactivators of Antimicrobial Agents

E1174 Test Method for Evaluation of the Effectiveness of Health Care Personnel Handwash Formulations

E2755 Test Method for Determining the Bacteria-Eliminating Effectiveness of Hand Sanitizer Formulations

Using Hands of Adults

E2756 Terminology Relating to Antimicrobial and Antiviral Agents

E2784 Test Method for Evaluation of the Effectiveness of Handwash Formulations Using the Paper Towel (Palmar) Method of Hand Contamination

2.2 Other Standards:

AATCC Test Method 147 Antibacterial Assessment of Textile Materials: Parallel Streak Method³

21 CFR Part 50 Protection of Human Subjects⁴

21 CFR Part 56 Institutional Review Boards⁴

3. Terminology

3.1 *Definitions*—For definitions of terms used in this document, see Terminology **E2756**.

3.2 Definitions of Terms Specific to This Standard:

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

3.2.2 *reference formulation, n*—formulation against which the activity of the test formulation is compared, for example, a handwash without an active ingredient or a handwash with a different active ingredient than the test formulation. This formulation is not considered a standard.

3.2.3 *test material, n*—a product or formulation which incorporates antimicrobial ingredient(s).

3.2.4 *test organism, n*—an applied inoculum of an organism that has characteristics which allow it to be readily identified. The test organism is used to simulate a transient topical microbial contaminant. It may also be referred to as a marker organism, bacterial simulant, or bacterial contaminant.

4. Summary of Test Method

4.1 This test method uses adult subjects who have provided a written informed consent and whose hands have been

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 1, 2013. Published May 2013. DOI: 10.1520/E2870-13.

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 U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, <http://www.access.gpo.gov>.