



Standard Test Method for Quantitative Petri Plate Method (QPM) for Determining the Effectiveness of Antimicrobial Towelettes¹

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INTRODUCTION

This test method provides a standardized approach to quantitatively determine the effectiveness of antimicrobial towelettes (wipes) in treating hard non-porous surfaces contaminated with *Staphylococcus aureus*, *Pseudomonas aeruginosa*, and *Salmonella enterica*. This test method addresses the need for a user-friendly, relevant, and reproducible procedure.²

1. Scope

1.1 This test method provides detailed instructions for performing a quantitative evaluation of antimicrobial efficacy of a towelette when challenged against *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Salmonella enterica*. The method may be used with other microbial strains, though modification may be necessary to accommodate recovery.

1.1.1 Antimicrobial towelettes, designed to decontaminate hard, non-porous surfaces, are diverse in size, matrix composition, and packaging.

1.1.2 Antimicrobial towelettes also vary in label claims and use directions.

1.2 This quantitative method does not differentiate between mechanical removal of inoculum from a surface and chemical inactivation of the test microbe; rather, product efficacy is considered a combination of both attributes of a towelette-based formulation.

1.3 It is the responsibility of the investigator to determine whether Good Laboratory Practices (GLP Standards—40 CFR, Part 160 of FIFRA) are required and to follow them when appropriate.

1.4 This standard may involve the use of hazardous materials, chemicals and infectious microorganisms and should be performed only by persons with formal training in microbiology.

1.5 Strict adherence to the protocol is necessary for the validity of the test results.

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

1.7 *This standard does not address specific product performance standards established by regulatory authorities; see Section 10, Note 2 for details.*

1.8 *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.*

2. Referenced Documents

2.1 Other Documents:

AOAC Official Method 961.02, Germicidal Spray Products as Disinfectants. Revised 2012³

AOAC Official Method 955.15, Use-Dilution Method for Testing Disinfectants against *Staphylococcus aureus*. Revised 2012³

AOAC Official Method 964.02, Use-Dilution Method for Testing Disinfectants against *Pseudomonas aeruginosa*. Revised 2012³

AOAC Official Methods 955.14, Use-Dilution Method for Testing Disinfectants against *Salmonella enterica*. Revised 2012³

40 CFR, Part 160 Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Good Laboratory Practice Standards⁴

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.

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² Samalot-Freire, L., Tomasino, S. F., and Hasan, J. A., The Quantitative Petri Plate Method (QPM): A New Method for Assessing the Efficacy of Antimicrobial Towelettes, Presented at the 125th Annual Meeting of the AOAC International, New Orleans, LA, 2011.

³ Available from AOAC International, 481 North Frederick Ave., Suite 500, Gaithersburg, Maryland 20877-2417, <http://www.aoac.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>.