



Standard Test Method for Efficacy of Sanitizers Recommended for Inanimate Non-Food Contact Surfaces¹

This standard is issued under the fixed designation E 1153; 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 used to evaluate the antimicrobial efficacy of sanitizers on precleaned inanimate, nonporous, non-food contact surfaces.

1.2 This test method may also be used to evaluate the antimicrobial efficacy of one-step cleaner/sanitizer formulations recommended for use on lightly soiled, inanimate, nonporous, non-food contact surfaces.

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

1.4 This standard may involve hazardous materials, chemicals and microorganisms and should be performed only by persons who have had formal microbiological training. *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 ASTM Standards:

D 1193 Specification for Reagent Water²

E 1054 Practices For Evaluating Inactivators of Antimicrobial Agents Used in Disinfectant, Sanitizer, Antiseptic, or Preserved Products³

2.2 Federal Standard:

40 CFR, Part 160, Good Laboratory Practice Standards⁴

3. Significance and Use

3.1 This test method shall be used to determine if a chemical has application as a non-food contact sanitizer or as a one-step cleaner/sanitizer.

4. Apparatus

4.1 *Balance*—A balance with a platform to accommodate a 100-mL volumetric flask. This balance should be sensitive to 0.01 g.

4.2 *Nonporous Test Surfaces*, pre-cleaned.

4.2.1 *Borosilicate Glass Squares*, 25 by 25 by 2 mm slides, nonchipped.

4.2.2 *Glazed Glass or Stainless Steel*, of appropriate type, approximately same size as in 4.2.1.

4.3 *Glass Culture Tubes*, recommended sizes: 18 to 20 by 150 mm and 25 by 150 mm without lip.

4.4 *Culture Tube Closures*, appropriate sized nontoxic closures.

4.5 *Pipets or Dispensing Syringes*, (or both), appropriately calibrated and sterile.

4.6 *Bacteriological Transfer Loop*, 4 mm inside diameter loop of platinum or platinum alloy wire or sterile, disposable plastic loops of approximate size.

4.7 *Flasks or Containers*:

4.7.1 Appropriate sizes with closures for preparation of culture medium and sterile distilled water.

4.7.2 *Volumetric*, 100 and 1000 mL, sterile.

4.8 *Petri dishes*, recommended sizes: 50 by 9 mm plastic, and 100 by 15 mm, glass and plastic; sterile.

4.9 *Jars*, ointment jars, 2 oz (60 mL) with nontoxic lids, sterile.

4.10 *Graduated Cylinders*, recommended sizes; 100 and 500 mL.

4.11 *Flaming Apparatus*—A bunsen burner or other appropriate heat sterilizer.

4.12 *Mixer*—A “vortex” mixer is recommended.

4.13 *Timer*—A reliable stopwatch or laboratory timer capable of measuring elapsed time in seconds and minutes.

4.14 *pH Meter*—A reliable pH meter to determine pH of culture media.

4.15 *Desiccator*, recommended size: 200 mm inside diameter with approximately 125-mm chamber depth from inside plate to cover flange, glass.

4.16 *Incubator*, capable of maintaining temperature of 37 ± 2°C.

4.17 *Sterilizer*, steam sterilizer and hot air oven (180 ± 2°C for 2 h).

¹ This test method is under the jurisdiction of ASTM Committee E35 on Pesticides and Alternative Control Agents and is the direct responsibility of Subcommittee E35.15 on Antimicrobial Agents.

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² *Annual Book of ASTM Standards*, Vol 11.01.

³ *Annual Book of ASTM Standards*, Vol 11.05.

⁴ Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.