



## Standard Test Method for Detecting Residual Odor of Drycleaning Grade Perchloroethylene<sup>1</sup>

This standard is issued under the fixed designation D 4494; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This test method covers the detection of a residual odor in drycleaning-grade perchloroethylene.

1.2 *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.* Specific precautionary statements are given in Section 7.

### 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

D 3844 Practice for Labeling Halogenated Hydrocarbon Solvent Containers

### 3. Summary of Test Method

3.1 A swatch of conditioned cotton fabric is treated by soaking in drycleaning perchloroethylene, then drained, dried, and steamed. The odor is compared with an untreated swatch. The treated swatch should be no different from the untreated.

### 4. Significance and Use

4.1 Normally clothes cleaned with perchloroethylene will have a clean cloth odor. If a foreign odor is present, it may be objectionable.

### 5. Apparatus

5.1 *Two-Glass Beakers*, 1 L.

5.2 *Oven*, forced convection model.

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee D26 on Halogenated Organic Solvents and Fire Extinguishing Agents and is the direct responsibility of Subcommittee D26.04 on Test Methods.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

### 6. Material

6.1 De-sized and bleached cotton fabric weighing from 120 to 135 g/m<sup>2</sup> (3.6 to 4.0 oz/yd<sup>2</sup>). The fabric shall be clean, dry, and free from foreign odor.

### 7. Safe Handling Precautions

7.1 Handle perchloroethylene only in a well-ventilated hood for conducting the test. See Practice D 3844 for the label information.

### 8. Procedure

8.1 Condition a swatch, 300 by 300-mm (12 by 12-in.) size, of test fabric at 60 ± 10 % relative humidity for at least 8 h.

8.2 Soak the test swatch in a beaker with 100 mL of perchloroethylene for 5 min.

8.3 Remove it from the beaker and allow to drain and dry at room temperature for 4 h.

8.4 Dry the treated swatch in a fresh air oven at 60°C (140°F) for 30 min.

8.5 Place the treated swatch in the steam vapor from boiling water for 5 s and check the odor of the cloth.

8.6 Compare the odor of the treated swatch with an untreated control swatch, that was subjected to all steps of the test except 8.2 and 8.3.

### 9. Report

9.1 Report whether the treated sample cloth has a detectable foreign odor or no foreign odor.

### 10. Precision and Bias

10.1 No statement is made about either the precision or the bias of Test Method D 4494 for measuring residual odor since the result merely states whether there is conformance to the criteria for success specified in the procedure.

### 11. Keywords

11.1 drycleaning; perchloroethylene; residual odor

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