



## Designation: **E934 – 94 (Reapproved 2009) E934 – 94 (Reapproved 2015)**

# Standard Specification for Serological Pipet, Disposable Plastic<sup>1</sup>

This standard is issued under the fixed designation E934; 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.

*This standard has been approved for use by agencies of the U.S. Department of Defense.*

## 1. Scope

1.1 This specification covers disposable plastic serological pipets, calibrated “to deliver” when measuring volumes of liquids.

1.1.1 ~~Any institution or individual who reuses a disposable pipet must bear full responsibility for its safety and effectiveness.~~  
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## 2. Referenced Documents

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

[D703 Specification for Polystyrene Molding and Extrusion Materials \(Withdrawn 0\)](#)<sup>3</sup>

[E542 Practice for Calibration of Laboratory Volumetric Apparatus](#)

[E920 Specification for Commercially Packaged Laboratory Apparatus](#)

[E921 Specification for Export Packaged Laboratory Apparatus](#)

[E1133 Practice for Performance Testing of Packaged Laboratory Apparatus for United States Government Procurements](#)

## 3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *accuracy*—the expected distribution of mean volumes around the stated volume.

3.1.2 *coefficient of variation*—the expected distribution of individual volumes around the mean volume.

3.1.3 *disposable pipet*—such pipets will only be expected to provide their specified performance during their original use or operation.

## 4. Material and Manufacturer

4.1 The pipets made to this specification shall be fabricated from crystal grade, uncolored polystyrene, or regrind of same, in accordance with Specification [D703](#).

## 5. Design

5.1 *Shape*—0.5, 1.0, and 2.0-cm<sup>3</sup> pipets shall be straight and of one-piece construction. Any cross section of a pipet taken in a plane perpendicular to the longitudinal axis shall be circular.

5.1.1 Pipets of 5.0, 10.0, 25.0, and 50.0 cm<sup>3</sup> shall be straight and may consist of one, two, or three components, the extruded pipet barrel, the pulled or injection molded tip, and the plain, pulled, or injection molded top end. Any cross section of a pipet taken in a plane perpendicular to the longitudinal axis shall be circular.

5.2 *Delivery Tips*—Delivery tips shall be made with a gradual taper of 10 to 40 mm. The tip end shall be reasonably perpendicular to the longitudinal axis of the pipet, and shall be free of internal flash.

5.3 *Top End*—The 5, 10, 25.0, and 50.0-cm<sup>3</sup> sizes shall have a top end with an inside diameter of 2 to 6.5 mm for a minimum distance of 20 mm from the open end, and shall have an overall length of 24 to 28 mm. On all sizes, the top end shall be suitable

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee [E41](#) on Laboratory Apparatus and is the direct responsibility of Subcommittee [E41.01](#) on Apparatus Laboratory Ware and Supplies.

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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.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).