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Standard Specification for Glass Micro Folin Pipet, Disposable[1]

This standard is issued under the fixed designation E 1092; 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 specification covers a glass disposable micro Folin pipet suitable for use in micro techniques for estimation of blood sugar by the Folin method.

1.2 The following precautionary statement pertains only to the test method portion, Section 8, of this specification. *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:*

E 438 Specification for Glasses in Laboratory Apparatus[2]

2.2 *ISO Standard:*

1769 Laboratory Glassware—Pipettes—Color Coding[3]

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*—micro Folin pipets that are intended to be used once only and then discarded.

NOTE 1—Such pipets will only be expected to provide their specified performance during the original operation.

4. Classification

4.1 This specification covers only one glass pipet as illustrated in Fig. X1.1.

5. Materials and Manufacture

5.1 The pipet shall be made of borosilicate glass, Type 1, Class B, or soda lime glass, Type 2, in accordance with Specification E 438.

6. Physical Properties

6.1 *Design*—The micro Folin pipet shall be made of one piece construction glass tubing that is straight and uniform bore with a point pulled on one end to the dimensions as specified in Fig. X1.1.

6.2 *Dimensions*—The pipet shall be made of tubing with an outside diameter (o.d.) of 2.5 ± 0.1 mm with an inside diameter (i.d.) of 1.8 ± 0.1 mm. The uniformity of the bore shall be ± 0.05 mm throughout the straight portion of the pipet. The pipet shall be 183 ± 1 mm long with all dimensions and tolerances as shown in Fig. X1.1.

6.3 *Capacity*—The pipet shall be calibrated "to contain" (T.C.) 0.1 and 0.2 mL at 20°C. Marking shall be as specified in 6.5.

6.3.1 *Accuracy* (see 3.1)—The accuracy from stated volume shall be ±1.0 % for the 0.1 and 0.2-mL capacity and shall be determined as specified in 8.1.

6.3.2 *Coefficient of Variation* (see 3.2)—The coefficient of variation from stated volume for the 0.1 and 0.2-mL capacity shall not exceed 1.25 % and shall be determined as specified in 8.1.

6.4 *Graduation Lines*—The pipet shall be calibrated and marked with graduation lines at 0.1 and 0.2 mL from the tip of the pipet. The graduation lines shall be 0.3 ± 0.1 mm and shall completely encircle the tube.

6.5 *Pipet Nomenclature*—The pipet shall be marked with 0.1 and 0.2-mL markings slightly above the graduation lines. The pipet may be marked with the inscription TC 20°C, or the manufacturer's or vendor's name or trademark, or both.

6.6 *Color Coding*—The pipet shall be color coded for capacity as specified in ISO Standard 1769 with an "orange" color band that is 6 mm ± 2 mm wide and located 16 ± 2 mm from the top of the pipet as shown in Fig. X1.1.

6.7 *Markings Permanency*—Graduation lines, inscriptions, and numerical markings on the pipet (other than the color code band) shall be black in color. All markings may not be of permanent nature but must possess sufficient stability to endure normal transportation and its expected one-time use and must meet the test requirements as specified in 8.5.

6.8 *Lot Control*—A lot or control number shall be indicated on the pipet container package. This lot or control number shall

[1] This specification is under the jurisdiction of ASTM Committee E-41 on Laboratory Apparatus and is the direct responsibility of Subcommittee E41.04 on Laboratory Furniture, Fume Hoods, and Related Equipment.

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[2] *Annual Book of ASTM Standards*, Vol 14.02.

[3] Available from ISO, 1 Rue de Varembe, Case Postale 56, Crt 1221, Geneva 20, Switzerland.