Australian Standard®

One-mark pipettes

This Australian Standard was prepared by Committee CH/1, Laboratory Glassware and Related Apparatus. It was approved on behalf of the Council of Standards Australia on 1 December 1994 and published on 5 April 1995.

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PREFACE

This Standard was prepared by the Standards Australia Committee CH/1, Laboratory Glassware and Related Apparatus, under the direction of the Multitechnics Standards Policy Board, to supersede the 1978 edition.

The objective of this Standard is to provide a specification for one-mark pipettes required for general use in laboratories.

This Standard is based on ISO 648, *Laboratory glassware—One-mark pipettes*. It varies from the 1978 edition of AS 2166 in that a correction has been made to 100 mL pipette dimensions in Table 2, the range of pipettes covered has been extended to 200 mL, and Clause 8, Clause 9 and Table 4 have been modified to cover pipettes with a 15 s waiting time. The format of AS 2166 has been retained to assist Australian manufacturers.

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One-mark pipettes

1 SCOPE This Standard sets out requirements for a series of one-mark pipettes, suitable for general laboratory purposes. Two classes of accuracy are specified, Class A pipettes being of higher accuracy than Class B pipettes.

NOTE: The method of verification and notes for the use of one-mark pipettes are given in AS 2162.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS
2162 Verification and use of volumetric glassware

ISO
1769 Laboratory glassware—Pipettes—Colour coding

BS
1797 Tables for use in the calibration of volumetric glassware

3 DEFINITIONS For the purpose of this Standard, the definitions below apply.

3.1 Capacity The volume of water at 20°C, expressed in millilitres, delivered by the pipette at 20°C, when it is filled to the graduation line and emptied in accordance with the method given in AS 2162.

3.2 Delivery time The time occupied by the descent of the water meniscus from the graduation line to the point at which it appears to come to rest in the jet.

3.3 Waiting time The time allowed after the delivery time, to ensure that the total amount of liquid for which the pipette is calibrated has been delivered.

4 NOMINAL CAPACITIES AND TOLERANCES ON CAPACITIES The nominal capacities and tolerances on the capacities of one-mark pipettes shall be as specified in Table 1.

5 CONSTRUCTION

5.1 Material The pipettes shall be constructed of glass having suitable chemical and thermal properties, shall be as free as possible from visible defects and shall be reasonably free from internal stress.

NOTES:

1 AS 1797 is applicable to pipettes manufactured almost exclusively from soda glass or borosilicate glass. Corrections for calibrating pipettes made of other types of glass may be obtained from the tables by interpolation or extrapolation.

2 Pipettes made from borosilicate glass are unlikely to be as free from visible defects as those made from soda glass.

3 Stress is commonly referred to as 'strain' in the glass manufacturing industry.

5.2 Shape

5.2.1 *0.5 mL pipettes* Pipettes of 0.5 mL capacity shall consist of a straight tube with a jet at the lower end.