

Australian Standard<sup>®</sup>

---

**Laboratory glassware—  
One-mark volumetric flasks**

---

[Based on ISO 1042:1983 laboratory glassware—One-mark volumetric flasks]

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 19 July 1995 and published on 5 October 1995.

---

The following interests are represented on Committee CH/1:

Australian Chamber of Commerce and Industry  
Australian Government Analytical Laboratories  
Environmental Protection Authority of N.S.W.  
National Association of Testing Authorities, Australia  
National Standards Commission  
Royal Australian Chemical Institute  
Royal College of Pathologists Australasia  
Scientific Suppliers Association of Australia  
University of Sydney

Additional interests participating in preparation of Standard:

Independent Consultant

---

**Review of Australian Standards.** To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important, therefore, that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

---

This Standard was issued in draft form for comment as DR 94443.

Australian Standard<sup>®</sup>

---

**Laboratory glassware—  
One-mark volumetric flasks**

---

## PREFACE

This Standard was prepared by the Standards Australia Committee CH/1, Laboratory Glassware and Related Apparatus to supersede the 1978 edition of AS 2164, *One-mark volumetric flasks*. This edition is based on ISO 1042—1983, *Laboratory glassware—One-mark volumetric flasks*, with significant changes.

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

This Standard varies from the previous edition in that the dimensions of the complete range of flasks now conform with those of ISO 1042. This Standard differs from ISO 1042 in that it refers to AS 2162 for information on verification and use, and requires markings appropriate to the type of glass used.

---

## CONTENTS

	<i>Page</i>
1 SCOPE .....	3
2 REFERENCED DOCUMENTS .....	3
3 DEFINITIONS .....	3
4 CLASSES OF ACCURACY .....	3
5 SERIES OF CAPACITIES .....	3
6 MENISCUS .....	3
7 ACCURACY .....	3
8 CONSTRUCTION .....	4
9 GRADUATION LINE .....	5
10 INSCRIPTIONS .....	5
11 VISIBILITY OF GRADUATION LINE, FIGURES AND INSCRIPTIONS .....	6

Originated as AS R20—1953 (being BS 1792:1952 endorsed with Australian amendment).  
Previous edition AS 2164—1978.  
Second edition 1995.

### © Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

## STANDARDS AUSTRALIA

## Australian Standard

## Laboratory glassware—One-mark volumetric flasks

**1 SCOPE** This Standard specifies requirements for an internationally acceptable series of one-mark volumetric flasks, suitable for general laboratory purposes. Two classes of accuracy are specified, Class A flasks being of higher accuracy than Class B flasks.

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

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

AS

2162 Code of practice for the use of volumetric glassware

2409 Interchangeable conical ground glass joints

**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, contained by the flask at 20°C when filled to the graduation line.

**3.2 Neck**—that part of the flask which is of apparently uniform internal diameter.

**3.3 Reference temperature**—the standard temperature of 20°C at which the volumetric flask is intended to contain its nominal volume (nominal capacity).

**3.4 Unit of volume**—the cubic centimetre (cm<sup>3</sup>), for which the name millilitre (mL) may be used.

NOTE: The term millilitre (mL) is commonly used as a special name for the cubic centimetre (cm<sup>3</sup>).

**4 CLASSES OF ACCURACY** Two classes of accuracy are specified:

**Class A** for the higher grade; and

**Class B** for the lower grade.

**5 SERIES OF CAPACITIES** The series of capacities of one-mark volumetric flasks are as follows:

5—10—25—50—100—200—250—500—1 000 and 2 000 mL.

All these flasks may be finished with a plain neck or be provided with a stopper.

NOTE: If volumetric flasks of capacities other than those listed above are required, it is recommended that they conform, as far as possible, to the essential requirements of this Australian Standard.

**6 MENISCUS** The setting of the meniscus shall be performed in accordance with AS 2162.

**7 ACCURACY** The capacity of the flask shall not differ from the nominal capacity by more than the maximum permitted errors shown in Table 1.