

# Australian Standard 2234—1979

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## LABORATORY GLASSWARE BEAKERS



**STANDARDS ASSOCIATION OF AUSTRALIA**  
*Incorporated by Royal Charter*

**THE FOLLOWING INDUSTRIAL, SCIENTIFIC AND GOVERNMENTAL organizations and departments were officially represented on the committee entrusted with the preparation of this standard:**

**Australian Medical Association  
Chambers of Commerce (N.S.W., Vic.)  
Chief Secretary's Department, Victoria  
Commonwealth Serum Laboratories  
Confederation of Australian Industry  
Department of Agriculture, N.S.W.  
Department of Science and the Environment  
Government Chemical Laboratories, W.A.  
National Measurement Laboratory  
National Standards Commission  
Railways of Australia Committee  
Royal Australian Chemical Institute  
University of Sydney  
Victorian State Laboratories**

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**This standard, prepared under the direction of Committee CH/1, Laboratory Glassware and Related Apparatus, was approved by the Chemical Standards Board on behalf of the Council of the Standards Association of Australia on 1 December 1978 and was published on 1 April 1979.**

**In order to keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvement to published standards, addressed to the head office of the Association, are welcomed.**

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**AUSTRALIAN STANDARD SPECIFICATION**

**BEAKERS**

**AS 2234—1979**

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## PREFACE

This standard is one of a series of standards dealing with items of general laboratory glassware being prepared by the Association's Committee on Laboratory Glassware and Related Apparatus, under the direction of the Chemical Standards Board, at the request of the N.S.W. Government Stores Department. Other items for which standards are being prepared include filter funnels, test tubes, boiling flasks and conical flasks, condensers, separating and dropping funnels, ground glass joints, and filter flasks.

The standard is based on work proceeding within Subcommittee 2—General Laboratory Glassware (Other Than Measuring Apparatus), of ISO/TC 48—Laboratory Glassware and Related Apparatus. Account was taken also of the relevant draft British Standard.

This standard may require reference to the following Australian standard:

AS 2164 One-mark Volumetric Flasks

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# STANDARDS ASSOCIATION OF AUSTRALIA

## Australian Standard Specification for BEAKERS

**1 SCOPE.** This specification describes two series of glass beakers with or without pouring lips, for general laboratory use.

**2 TYPES OF BEAKER.** Two types of beaker are specified, viz—

- (a) low form beaker;
- (b) tall form beaker.

**3 CAPACITIES OF BEAKERS.**

**3.1 Nominal Capacities.** The nominal capacities, in millilitres, of the beakers, covered by this specification are as follows:

(a) *Low form beakers:*

|    |     |      |      |
|----|-----|------|------|
| 5  | 100 | 500  | 1500 |
| 10 | 150 | 600  | 2000 |
| 25 | 250 | 800  | 3000 |
| 50 | 400 | 1000 | 5000 |

(b) *Tall form beakers:*

|     |     |      |      |
|-----|-----|------|------|
| 50  | 250 | 600  | 3000 |
| 100 | 400 | 1000 |      |
| 150 | 500 | 2000 |      |

**3.2 Overflow Capacity.** The capacity at which a beaker overflows shall be—

- (a) not less than the nominal capacity, plus 10 percent; and
- (b) at a level not less than 10 mm above the level of the nominal capacity.

**4 MATERIAL.**

**4.1 General.** Beakers shall be made of borosilicate glass, with chemical and thermal properties conforming to the limits specified in Clauses 4.2 and 4.3 respectively.

**4.2 Hydrolytic Resistance.** When the glass is tested in accordance with Appendix A, the amount of alkali extracted, expressed as  $\text{Na}_2\text{O}$ , shall not be greater than  $30 \mu\text{g/g}$  of glass.

**4.3 Thermal Shock Resistance.** The glass used shall have a maximum coefficient of linear thermal expansion of  $5.6 \times 10^{-6} \text{K}^{-1}$  over the temperature range  $20^\circ\text{C}$  to  $300^\circ\text{C}$ .

NOTE: Where information is required by the purchaser on the thermal shock resistance of particular sizes and glass thicknesses of beakers, a test may be carried out in accordance with Appendix B, the temperature differential and any necessary amendments in procedure resulting from the size of the beaker being the subject of agreement between the purchaser and vendor.