AS 2405—1981

Australian Standard

LABORATORY GLASSWARE

KJELDAHL FLASKS

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

CSIRO, Division of Applied Physics

Department of Agriculture, N.S.W.

Department of Science and the Environment

Government Chemical Laboratories, W.A.

National Standards Commission

Railways of Australia Committee

Royal Australian Chemical Institute

University of Sydney

Victorian State Laboratories

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PREFACE

This standard was prepared by the Association's Committee on Laboratory Glassware and Related Apparatus under the direction of the Chemical Standards Board, in response to a request from the N.S.W. Government Standards Board, in response to a request from the N.S.W. Government Stores Department. The Department required a standard against which it could order flasks reasonably fit for their intended purpose, viz for use in the digestion and distillation procedures involved in the determination of nitrogen by the Kjeldahl method.

The committee based this standard on the German standard DIN 12360—Kjeldahlkolben.

This standard is one of a series of standards for general laboratory glassware. Other items for which standards are being, or have been, prepared include beakers, test tubes, conical flasks and boiling flasks, filter funnels, condensers, separating and dropping funnels, glass joints, and filter flasks.

This standard requires reference to the following standard:

AS 2409 Interchangeable Conical Ground Glass Joints

CONTENTS

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
KJELDAHL FLASKS

1 SCOPE. This standard specifies requirements for Kjeldahl flasks generally used for digestion and distillation procedures in the determination of nitrogen.

2 DEFINITION. For the purpose of this standard, the following definition applies:

Nominal capacity—the value which is closest to, but not greater than, the actual capacity of the flask to the base of the neck.

3 CAPACITIES OF FLASKS. The nominal capacities of Kjeldahl flasks, in millilitres, shall be:

30, 50, 100, 300, 500, 800.

4 MATERIAL.

4.1 General. Flasks shall be made of borosilicate glass of chemical and thermal properties conforming to the limits specified in Clauses 4.2 and 4.3 respectively. They shall be as free as possible from visible defects and internal stress.

NOTE: Directions for the care and use of Kjeldahl flasks are contained in Appendix A.

4.2 Hydrolytic Resistance. When the glass is tested in accordance with Appendix B, the amount of alkali extracted shall be not greater than the equivalent of 20 μg of sodium per gram of glass.

4.3 Thermal Shock Resistance. The coefficient of expansion of the glass shall not exceed $5.6 \times 10^{-6}\ K^{-1}$.

NOTE: If information is required by the purchaser on the thermal resistance of Kjeldahl flasks of any particular size and wall thickness, a test should be carried out in accordance with Appendix C. The temperature differential to be applied in the test and also any necessary amendments to the test procedure on account of the size of a flask, should be the subject of agreement between the interested parties.

5 CONSTRUCTION.

5.1 General. Flasks shall conform to the appropriate general shape shown in Fig. 1.

5.2 Bulb. The shape of the bulb shall be approximately as shown in Fig. 1. The lower half shall be approximately hemispherical and the upper half shall have a gradual taper towards the neck.