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Laboratory glassware – Bottles – Part 2: Conical neck bottles (ISO 4796-2:2000)

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Swedish Standards corresponding to documents referred to in this Standard are listed in "Catalogue of Swedish Standards", issued by SIS. The Catalogue lists, with reference number and year of Swedish approval, International and European Standards approved as Swedish Standards as well as other Swedish Standards.

Laboratorieglass – Flaskor – Del 2: Flaskor med konisk hals (ISO 4796-2:2000)

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ICS 71.040.20

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EN ISO 4796-2

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English version

**Laboratory glassware - Bottles - Part 2: Conical neck bottles
(ISO 4796-2:2000)**

Verrerie de laboratoire - Flacons - Partie 2: Flacons à col
conique (ISO 4796-2:2000)

Laborgeräte aus Glas - Flaschen - Teil 2: Flaschen mit
konischem Hals (ISO 4796-2:2000)

This European Standard was approved by CEN on 1 April 2000.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

The text of the International Standard ISO 4796-2:2000 has been prepared by Technical Committee ISO/TC 48 "Laboratory glassware and related apparatus" in collaboration with Technical Committee CEN/TC 332 "Laboratory equipment", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2000, and conflicting national standards shall be withdrawn at the latest by October 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

NOTE FROM CEN/CS: The foreword is susceptible to be amended on reception of the German language version. The confirmed or amended foreword, and when appropriate, the normative annex ZA for the references to international publications with their relevant European publications will be circulated with the German version.

Endorsement notice

The text of the International Standard ISO 4796-2:2000 was approved by CEN as a European Standard without any modification.

Laboratory glassware — Bottles —

Part 2: Conical neck bottles

1 Scope

This part of ISO 4796 specifies a series of bottles with a conical, wide or narrow neck with or without ground joints, suitable for the storage of liquid and solid chemicals and reagents in general laboratory use.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 4796. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 4796 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 383:1976, *Laboratory glassware — Interchangeable conical ground joints*.

ISO 719:1985, *Glass — Hydrolytic resistance of glass grains at 98 °C — Method of test and classification*.

ISO 3585:1998, *Borosilicate glass 3.3 — Properties*.

ISO 4796-1:2000, *Laboratory glassware — Bottles — Part 1: Screw-neck bottles*.

3 Types and capacities

3.1 There are four types of conical neck bottles specified in this part of ISO 4796:

- type WS: wide-necked bottles with a conical socket;
- type WJ: wide-necked bottles with an interchangeable conical ground joint;
- type NS: narrow-necked bottles with a conical socket;
- type NJ: narrow-necked bottles with an interchangeable conical ground joint.

3.2 The nominal capacities of conical neck bottles shall be chosen from the following series:

- wide-necked bottles: 50 ml — 100 ml — 250 ml — 500 ml — 1 000 ml and 2 000 ml;
- narrow-necked bottles: 25 ml — 30 ml — 50 ml — 100 ml — 250 ml — 500 ml — 1 000 ml — 2 000 ml — 2 500 ml — 5 000 ml — 10 000 ml and 20 000 ml.

3.3 The nominal capacity of a bottle indicates the quantity of liquid which a bottle of average wall thickness shall contain when the bottle is filled to the turn of the shoulder.

3.4 The design of the bottle shall be such that the total capacity to the base of the neck shall be approximately 15 % greater than that to the shoulder.

4 Dimensions

The dimensions and tolerances of conical neck bottles are given in Figures 1 and 2 and in Table 1.

Table 1 — Dimensions

Nominal capacity ml	Total height <i>h</i> mm approx.	Outside diameter <i>d</i> mm approx.	Wall thickness <i>s</i> mm min.	Recommended socket/ground joint ^a	
				wide neck	narrow neck
25	64	36	1,0	—	12/21
30	78	36	1,0	—	16/16
50	78	42	1,0	24/20	14/15
100	95	52	1,2	29/22	14/15 or 14/23
250	128	70	1,3	34/35	19/22 or 19/26
500	162	86	1,3	45/40	24/29
1 000	198	107	1,7	60/46	29/32
2 000	246	133	2,0	60/46	29/32
2 500	295	140	2,0	—	24/20
5 000	318	181	2,0	—	45/40
10 000	398	227	2,7	—	60/46
20 000	492	288	3,0	—	60/46

^a In accordance with ISO 383 (see 5.2.8 for details)

5 Construction

5.1 Material

5.1.1 Bottles with conical necks shall be constructed of clear, colourless or amber borosilicate glass 3.3 in accordance with ISO 3585 or from other glass types, complying with the requirements of class HGB 3 or better specified in ISO 719.

5.1.2 Internal stress and visible defects in the glass (such as bubbles near the surface) shall be reduced to a level sufficient to minimize the possibility of fracture due to thermal or mechanical shock.

5.2 Design

5.2.1 The base of the bottle shall be constructed so as to enable the bottle to stand firmly on a flat surface without rocking or spinning.