

Fourth edition  
1998-07-01

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## Laboratory glassware — One-mark volumetric flasks

*Verrerie de laboratoire — Fioles jaugées à un trait*



Reference number  
ISO 1042:1998(E)

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

ISO 1042 was developed by Technical Committee ISO/TC 48, *Laboratory glassware and related apparatus*, Subcommittee SC 1, *Volumetric instruments*.

This fourth edition cancels and replaces the third edition (ISO 1042:1983) by incorporating the following changes:

- a) flasks with capacities of 1, 2, 20 and 5 000 ml have been added;
- b) flasks with conical body shape have been added;
- c) flasks with wider neck have been added;
- d) material has been more precisely defined and a test method for capacity introduced;
- e) sizes of ground joints have been added in tables 1 and 2.

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## Introduction

Volumetric flasks together with analytical balances are the fundamental tools for the preparation of volumetric standard solutions – the basis of chemical analysis. The design of narrow-necked class A volumetric flasks has been optimized to achieve the fewest possible acceptable errors.

With the increasing popularity of piston-operated pipettors, there is market pressure for the manufacture of volumetric flasks with wider necks so that pipettor tips may be inserted to remove solution directly. Wide-necked flasks will of necessity be of lower accuracy than the corresponding capacities of narrow-necked flasks and the insertion of any extraneous device may introduce other errors.

It is therefore recommended that narrow-necked class A volumetric flasks are used for the production of standard solutions and where necessary, a suitable quantity should be poured into an intermediate vessel into which the pipettor tip may be introduced.

In accordance with good laboratory practice, only narrow-necked class A volumetric flasks conforming to this International Standard should be used for precise analytical purposes.