

Methods for

Preparation of calibration gas mixtures —

Part 5: Dynamic volumetric methods —

Section 5.4 Continuous injection
method

[ISO title: Gas analysis — Preparation of calibration gas
mixtures — Dynamic volumetric methods — Part 4: Continuous
injection method]

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Environment and Pollution Standards Committee (EPC/-) to Technical Committee EPC/46, upon which the following bodies were represented:

- British Ceramic Research Association
- British Coal
- British Gas plc
- Cement Makers' Federation
- Chemical Industries Association
- Department of Energy (Gas Standards)
- Department of Trade and Industry (Electronics Application Division)
- Department of Trade and Industry (Laboratory of the Government Chemist)
- Department of Trade and Industry (Warren Spring Laboratory)
- Electricity Supply Industry in England and Wales
- GAMBICA (BEAMA Ltd.)
- Institute of Petroleum
- Institution of Chemical Engineers
- Institution of Gas Engineers
- Society of Chemical Industry
- Society of Glass Technology
- Society of Motor Manufacturers and Traders Limited
- Water-tube Boilermakers' Association

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- British Compressed Gases Association
- British Laboratory Ware Association

This British Standard, having been prepared under the direction of the Environment and Pollution Standards Committee, was published under the authority of the Board of BSI and comes into effect on 31 December 1987

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The following BSI references relate to the work on this standard:
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National foreword

This Section of BS 4559 has been prepared under the direction of the Environment and Pollution Standards Committee. It is identical with ISO 6145-4:1986 “*Gas analysis — Preparation of calibration gas mixtures — Dynamic volumetric methods — Part 4: Continuous injection method*”, published by the International Organization for Standardization (ISO). This Part of ISO 6145 was prepared as a result of discussions in Technical Committee 158, Gas analysis, in which the UK has participated.

BS 4559 was first published in 1970 as a single standard under the title “*Methods for the preparation of gaseous mixtures*”. The present revision is being issued in Parts to implement methods prepared by ISO/TC 158 and to provide for revision, where necessary, of the methods included in the 1970 edition which was withdrawn in 1981.

Part 5 of this standard covers the preparation of mixtures using dynamic volumetric methods. This Section covers the continuous injection method. Other Sections in this Part of BS 4559 are as follows.

- *Section 5.1: Methods of calibration;*
- *Section 5.2: Volumetric pumps method¹⁾;*
- *Section 5.3: Periodic injections into a flowing gas stream;*
- *Section 5.5: Capillary method¹⁾;*
- *Section 5.6: Sonic orifices;*
- *Section 5.7: Mass flow controllers method¹⁾;*
- *Section 5.8: Diffusion method¹⁾.*

Terminology and conventions. The text of the International Standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words “International Standard” and “part 4 of ISO 6145” appear, referring to this standard, they should be read as “British Standard” and “Section 5.4 of BS 4559” respectively.

In British Standards, it is current practice to use the symbol “L” for litre (and in its submultiples) rather than “l”.

Cross-references

International Standard	Corresponding British Standard
	BS 4559 <i>Methods for preparation of calibration gas mixtures</i>
	Part 5 <i>Dynamic volumetric methods</i>
ISO 6145-1:1986	Section 5.1:1987 <i>Review of methods of calibration</i> (Identical)

It is intended to implement ISO 8221 as a British Standard upon publication of the ISO standard.

A British Standard implementing ISO 6143 is currently in preparation and it is intended to publish this as a further Part of BS 4559.

¹⁾ In preparation.

Textual errors. When adopting the text of the International Standard, the textual errors given below were discovered. They have been marked in the text and have been reported to ISO in a proposal to amend the text of the International Standard.

In **5.1**, **5.2** and **5.4**, “should” has been used in a number of places to indicate requirements. In each of these clauses, for “should” read “shall”.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 6, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.