

Methods for

Measurement of air pollution —

Part 9: Determination of the mass concentration of nitrogen oxides in ambient air: chemiluminescence method

[ISO title: Ambient air — Determination of the mass concentration of nitrogen oxides — Chemiluminescence method]

UDC [551.510.42 + 614.72]:543.272.32:535:379

Confirmed November 2010

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The preparation of this British Standard was entrusted by the Environment and Pollution Standards Committee (EPC/-) to Technical Committee EPC/35, upon which the following bodies were represented:

- British Coal
- British Gas
- British Steel Corporation
- Cement Makers' Federation
- Department of Health and Social Security
- 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.)
- Health and Safety Executive
- Institute of Petroleum
- Institution of Environmental Health Officers
- Institution of Gas Engineers
- Lead Development Association
- National Industrial Fuel Efficiency Service
- National Society for Clean Air
- Society of Chemical Industry

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

- Asbestosis Research Council
- Chartered Institution of Building Services Engineers
- Council of Environmental Conservation
- Department of the Environment
- Department of the Environment (Building Research Establishment)
- Engineering Equipment and Materials Users' Association
- Fibre Cement Manufacturers' Association Limited
- Institute of Energy
- Institute of Occupational Hygienists
- Institute of Occupational Medicine
- Institution of Electrical Engineers
- London Regional Transport

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 30 September 1987

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The following BSI references relate to the work on this standard:
Committee reference EPC/35
Draft for comment 84/50181 DC

ISBN 0 580 15501 3

Amendments issued since publication

Amd. No.	Date of issue	Comments

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National foreword

This Part of BS 1747, which has been prepared under the direction of the Environment and Pollution Standards Committee, is identical with ISO 7996:1985 “*Ambient air — Determination of the mass concentration of nitrogen oxides — chemiluminescence method*” published by the International Organization for Standardization. It was prepared by Technical Committee 146, Air quality, of the International Organization for Standardization (ISO) with the active participation and approval of the UK.

This Part of BS 1747 is one of a series relating to air quality arising from UK participation in the work of ISO/TC 146. Methods for the determination of particular constituents of ambient air will be published as further Parts of this standard. Topics relating to air quality characteristics will be published as Parts of BS 6069 “*Methods for characterization of air quality*”.

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. It is current practice in British Standards to use a full point on the baseline as the decimal marker.

Wherever the words “International Standard” appear, referring to this standard, they should be read as “Part of BS 1747”.

The symbol “l” has been used to denote litre (and in its submultiples). In British Standards it is current practice to use the symbol “L”. It is also current practice to use the spelling “sulphur”, instead of “sulfur”.

Cross-references

International Standards	Corresponding British Standards
	BS 4559: <i>Methods for preparation of calibration gas mixtures</i>
ISO 6142:1981	Section 1.1:1983 <i>Mixtures containing components fully vaporizable under ambient conditions</i> (Identical)
ISO 6144:1981	Part 3:1983 <i>Static volumetric methods</i> (Identical)
ISO 6349:1979	Part 7:1981 <i>Permeation method</i> (Identical)

The Technical Committee has reviewed the provisions of ISO 6711 and ISO 6879, to which reference is made in the main body of the standard and in the Annex respectively, and has decided that they are acceptable for use in conjunction with this standard.

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

In 6.2.2.3, line 3, “ $\pm 1\text{ }^{\circ}\text{C}$ ” should be “ $\pm 0,1\text{ }^{\circ}\text{C}$ ”.

In 6.3.1, equation (3), delete “ $+\phi'$ (NO)” and the explanation of this term thereunder.

In 6.3.2, lines 7 and 8, delete “and ϕ' (NO) by ϕ' (NO₂) or ϕ' (NO_x)”.

In 6.3.2, note 3, the last sentence should be part of item b).

In Figure 2, the cylinder containing the NO source, should show “ ≈ 1 ” before “ppm (V/V)”.

Additional information. For clarification, the term “zero air”, which is used in 6.2.1 and subsequent clauses, refers to air containing no nitrogen oxides.

In order to provide clarification notice is brought to users of this standard that the equations given in 6.3.1 assume a converter efficiency of 100 % for nitrogen dioxide conversion to nitrogen oxide. For very accurate determinations, the appropriate conversion factor may have to be used and in such cases the attention of users is also drawn to note 3 in 6.3.2, which describes alternative calibration systems.

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 10, 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.

