



# SLOVENSKI STANDARD

## SIST EN ISO 16664:2008

01-oktober-2008

---

**Analiza plinov - Ravnanje s kalibracijskimi plini in plinskimi zmesmi - Smernice (ISO 16664:2004)**

Gas analysis - Handling of calibration gases and gas mixtures - Guidelines (ISO 16664:2004)

Gasanalyse - Handhabung von Kalibriergasen und Gasgemischen - Richtlinien (ISO 16664:2004)

Analyse des gaz - Manutention des gaz et des mélanges de gaz pour étalonnage - Lignes directrices (ISO 16664:2004)

**Ta slovenski standard je istoveten z: EN ISO 16664:2008**

---

**ICS:**

71.040.40      Kemijska analiza      Chemical analysis

**SIST EN ISO 16664:2008**      en

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN ISO 16664:2008

<https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008>

EUROPEAN STANDARD

EN ISO 16664

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2008

ICS 71.040.40

English Version

## Gas analysis - Handling of calibration gases and gas mixtures - Guidelines (ISO 16664:2004)

Analyse des gaz - Manutention des gaz et des mélanges  
de gaz pour étalonnage - Lignes directrices (ISO  
16664:2004)

Gasanalyse - Handhabung von Kalibriergasen und  
Gasgemischen - Richtlinien (ISO 16664:2004)

This European Standard was approved by CEN on 30 July 2008.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

[SIST EN ISO 16664:2008](https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008)

<https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008>



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

**Contents**

Page

Foreword.....3

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN ISO 16664:2008

<https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008>

## Foreword

The text of ISO 16664:2004 has been prepared by Technical Committee ISO/TC 158 "Analysis of gases" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 16664:2008 by Technical Committee CEN/SS N21 "Gaseous fuels and combustible gas" the secretariat of which is held by CMC.

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 February 2009, and conflicting national standards shall be withdrawn at the latest by February 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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

**iTeh STANDARD PREVIEW**  
Endorsement notice  
(standards.iteh.ai)

The text of ISO 16664:2004 has been approved by CEN as a EN ISO 16664:2008 without any modification.

[SIST EN ISO 16664:2008](https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008)

<https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN ISO 16664:2008](#)

<https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008>

# INTERNATIONAL STANDARD

**ISO**  
**16664**

First edition  
2004-07-15

---

---

## Gas analysis — Handling of calibration gases and gas mixtures — Guidelines

*Analyse des gaz — Manutention des gaz et des mélanges de gaz pour  
étalonnage — Lignes directrices*

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN ISO 16664:2008](https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008)

<https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008>



Reference number  
ISO 16664:2004(E)

© ISO 2004

**ISO 16664:2004(E)****PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 16664:2008](https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008)

<https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008>

© ISO 2004

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland



## Contents

Page

Foreword .....	iv
Introduction .....	v
1 Scope .....	1
2 Terms and definitions .....	1
3 Transport and storage .....	4
3.1 General remarks .....	4
3.2 Low temperature .....	4
3.3 High temperature .....	4
3.4 Water .....	4
3.5 Storage and handling .....	4
4 Mode of withdrawal .....	5
4.1 General .....	5
4.2 Minimum utilization pressure .....	5
4.3 Temperature .....	5
4.4 Pressure reduction and flow .....	5
4.5 Replacement, change of cylinder positions .....	5
5 Transfer system .....	6
5.1 Purging procedure .....	6
5.2 Considerations when designing and constructing gas transfer lines .....	7
6 Stability .....	13
Annex A (informative) Check on the stability of calibration gas mixtures by end-users .....	14
Bibliography .....	17

## 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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 16664 was prepared by Technical Committee ISO/TC 158, *Analysis of gases*.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 16664:2008](https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008)

<https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008>

## Introduction

This International Standard uses the terms “calibration gas” for both gas mixtures and pure gases as the limiting case of gas mixtures.

The quality of calibration gases in cylinders as certified by producers is defined by

- a) the correct analyte content;
- b) a known uncertainty which is appropriate for its intended use;
- c) the stability;
- d) the homogeneity.

During its utilization period, the quality of calibration gases is influenced by

- storage conditions at the manufacturer’s and user’s sites;
- transport conditions;
- modes of calibration gas withdrawal and transfer;
- the transfer system employed.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**  
[SIST EN ISO 16664:2008](https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008)  
<https://standards.iteh.ai/catalog/standards/sist/276a8016-0152-40b7-ab9d-4645ef7b4f8d/sist-en-iso-16664-2008>