INTERNATIONAL STANDARD

ISO 7504

Third edition
2015-05-15

Gas analysis — Vocabulary

Analyse des gaz — Vocabulaire

Reference number
ISO 7504:2015(E)

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword — Supplementary information.

The committee responsible for this document is ISO/TC 158, *Analysis of gases*.

This third edition cancels and replaces the second edition (ISO 7504:2001), which has been technically revised for alignment with the terminology used in other International Standards, including ISO/IEC Guide 98-3 and ISO/IEC Guide 99:2007.

Gas analysis — Vocabulary

1 Scope

This International Standard defines terms related to gas analysis, with the main focus on terms related to calibration gas mixtures for use in gas analysis and gas measurements. It does not cover terms which relate only to specific applications.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC Guide 98-3:2008, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

ISO/IEC Guide 99:2007, *International vocabulary of metrology — Basic and general concepts and associated terms (VIM)*

ISO 10715:1997, *Natural gas — Sampling guidelines*

3 Terms relating to general concepts

Terms used in the field of gas analysis that are well defined by either ISO/IEC Guide 98-3 or ISO/IEC Guide 99 are included in Annex A.

3.1
homogeneity
state of a gas mixture wherein all of its *components* (3.3) are distributed uniformly throughout the volume occupied by the gas mixture

3.2
stability
attribute of a gas mixture, under specified conditions, to maintain its *composition* (3.5) within specified uncertainty (Annex A) limits for a specified period of time (*maximum storage life* (7.5))

3.3
component
chemical entity at a defined physical state present in a material or in a mixture

3.4
content
amount-of-substance fraction (3.5.1.1), *mass fraction* (3.5.1.2), *volume fraction* (3.5.1.3), *amount-of-substance concentration* (3.5.2.1), *mass concentration* (3.5.2.2), *volume concentration* (3.5.2.3) of a *component* (3.3) in a gas or gas mixture

Note 1 to entry: See ISO 14912[7] for further information about this concept.

EXAMPLE 1 The hydrogen content in a mixture of hydrogen and nitrogen, expressed as an *amount-of-substance fraction* (3.5.1.1), is $x(H_2) = 0{,}1$.

EXAMPLE 2 The content of sulfur dioxide in air at p = 101,325 kPa and T = 288,15 K, expressed as a *mass concentration* (3.5.2.2), is $\gamma(SO_2) = 1\ mg/m^3$.