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Natural gas — Quality designation

Gaz naturel — Désignation de la qualité



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Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols, abbreviations and units	6
4.1 Symbols.....	6
4.2 Abbreviations.....	6
4.3 Subscripts.....	6
5 Quality designation parameters	7
5.1 General.....	7
5.2 Gas composition.....	7
5.3 Gas properties.....	8
6 Sampling	9
Annex A (informative) Introduction to informative annexes	10
Annex B (informative) German Regulation Code of Practice DVGW G 260:2008, Extract of the relevant parts for natural gases	18
Annex C (informative) European Standard EN 437 “Test gases, test pressures and categories of appliances”	22
Annex D (informative) Interchangeability AGA index method	25
Annex E (informative) British Gas Hydrocarbon Equivalence Method	32
Annex F (informative) Weaver index method	37
Annex G (informative) French method for determining gas interchangeability (Delbourg method) (guide for determining the interchangeability of second family gases)	39
Annex H (informative) Spanish regulation code (Detail Protocol-01 — Measurement) — Extract of the relevant parts for natural gases	45
Annex I (informative) Harmonization of gas property data for cross-border transportation	46
Bibliography	48

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.

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. www.iso.org/directives

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The committee responsible for this document is ISO/TC 193, *Natural gas*.

This second edition cancels and replaces the first edition (ISO 13686:1998), which has been technically revised.

Introduction

The need for an International Standard concerning the designation of natural gas quality was a basic reason for the establishment of ISO/TC 193 in 1989. Standardization of the designation of quality is specifically stated in the scope of ISO/TC 193. Natural gas, supplying 20 % of the world's primary energy, is likely to increase its market share greatly. Yet there is currently no generally accepted definition of natural gas quality.

To meet this need, it was decided that a general statement of the parameters (i.e. components and properties) recommended should be established and that the resulting International Standard would not specify values of, or limits for, these parameters.

Furthermore, it was decided that general-purpose natural gas transmitted to local distribution systems (LDS), referred to as "natural gas", should be the first consideration. Thus, this International Standard was developed. Informative annexes are attached as examples of actual natural gas quality specifications that already exist.

This International Standard does not impose any quality restrictions on raw gas transported via pipelines or gathering systems to processing or treating facilities.

It should be understood that this International Standard covers natural gas at the pipeline level prior to any treatment by LDS for peakshaving purposes. This covers the vast majority of the natural gas that is sold in international trade and transmitted for custody transfer to local distribution systems.

Natural gas — Quality designation

1 Scope

This International Standard specifies the parameters required to describe finally processed and, where required, blended natural gas. Such gas is referred to subsequently in this text simply as “natural gas”.

The main text of this International Standard contains a list of these parameters, their units and references to measurement standards. Informative annexes give examples of typical values for these parameters, with the main emphasis on health and safety.

In defining the parameters governing composition, physical properties and trace constituents, consideration has also been given to existing natural gases to ensure their continuing viability.

The question of interchangeability is dealt with in [Annex A](#) (see Clause A.2).

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 6326-1, *Natural gas — Determination of sulfur compounds — Part 1: General introduction*

ISO 6326-3, *Natural gas — Determination of sulfur compounds — Part 3: Determination of hydrogen sulfide, mercaptan sulfur and carbonyl sulfide sulfur by potentiometry*

ISO 6326-5, *Natural gas — Determination of sulfur compounds — Part 5: Lingener combustion method*

ISO 6327, *Gas analysis — Determination of the water dew point of natural gas — Cooled surface condensation hygrometers*

ISO 6570, *Natural gas — Determination of potential hydrocarbon liquid content — Gravimetric methods*

ISO 6974-1, *Natural gas — Determination of composition and associated uncertainty by gas chromatography — Part 1: General guidelines and calculation of composition*

ISO 6974-2, *Natural gas — Determination of composition and associated uncertainty by gas chromatography — Part 2: Uncertainty calculations*

ISO 6974-3, *Natural gas — Determination of composition with defined uncertainty by gas chromatography — Part 3: Determination of hydrogen, helium, oxygen, nitrogen, carbon dioxide and hydrocarbons up to C8 using two packed columns*

ISO 6974-4, *Natural gas — Determination of composition with defined uncertainty by gas chromatography — Part 4: Determination of nitrogen, carbon dioxide and C1 to C5 and C6+ hydrocarbons for a laboratory and on-line measuring system using two columns*

ISO 6974-5, *Natural gas — Determination of composition and associated uncertainty by gas chromatography — Part 5: Isothermal method for nitrogen, carbon dioxide, C1 to C5 hydrocarbons and C6+ hydrocarbons*

ISO 6974-6, *Natural gas — Determination of composition and associated uncertainty by gas chromatography — Part 6: Determination of helium, oxygen, nitrogen, carbon dioxide and C1 to C10 hydrocarbons using capillary columns*

ISO 6975, *Natural gas — Extended analysis — Gas-chromatographic method*