
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

Gaz naturel — Détermination de la composition avec une incertitude définie par chromatographie en phase gazeuse —

Partie 4: Détermination de l'azote, du dioxyde de carbone et des hydrocarbures (C1 à C5 et C6+) pour un laboratoire et un système de mesure en continu employant deux colonnes



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Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	2
3 Principle.....	2
4 Materials	2
5 Apparatus	2
6 Procedure	4
6.1 Gas chromatographic operating conditions.....	4
6.2 Performance requirements — Peak resolution	7
6.3 Determination — Outline of the analysis	8
7 Expression of results	8
7.1 Calculation.....	8
7.2 Precision and accuracy.....	8
8 Test report	8
Annex A (informative) Procedure for setting valve timings and restriction setting.....	9
Annex B (informative) Final time	10
Annex C (informative) Typical precision values	11
Bibliography	12

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 3.

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 part of ISO 6974 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 6974-4 was prepared by Technical Committee ISO/TC 193, *Natural gas*, Subcommittee SC 1, *Analysis of natural gas*.

This part as well as the other five parts of ISO 6974 cancel and replace ISO 6974:1984 which specified only one method.

ISO 6974 consists of the following parts, under the general title *Natural gas — Determination of composition with defined uncertainty by gas chromatography*:

- *Part 1: Guidelines for tailored analysis*
- *Part 2: Measuring-system characteristics and statistics for data treatment*
- *Part 3: Determination of hydrogen, helium, oxygen, nitrogen, carbon dioxide and hydrocarbons up to C₈ using two packed columns*
- *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*
- *Part 5: Determination of nitrogen, carbon dioxide and C₁ to C₅ and C₆₊ hydrocarbons for a laboratory and on-line process application using three columns*
- *Part 6: Determination of hydrogen, helium, oxygen, nitrogen, carbon dioxide and hydrocarbons up to C₈ using three capillary columns*

Annexes A to C of this part of ISO 6974 are for information only.

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Introduction

This part of ISO 6974 specifies a precise and accurate method for the determination of the composition of natural gas. The compositional data obtained are used for the calculation of the calorific value, the relative density and the Wobbe index. This method requires the use of two columns placed in series in a single-oven gas chromatograph.

The combination of two columns makes backflushing possible. All the constituents including the backflush peak are detected by a thermal conductivity detector (TCD).

This method is derived from ISO 6568, *Natural gas — Simple analysis by gas chromatography*.

This part of ISO 6974 provides one of the methods that may be used for determining the composition of natural gas in accordance with parts 1 and 2 of ISO 6974.