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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 27894.8-2026

Natural gas - Determination of composition and associated uncertainty by gas chromatography - Part 8: Determination of hydrogen, oxygen, nitrogen, carbon monoxide, carbon dioxide, C1 to C5 and C6+ hydrocarbons by micro thermal conductivity detector

天然气 用气相色谱法测定组成和计算相关不确定度 第8部分：用微型热导测定氢、氧、氮、一氧化碳、二氧化碳和C1至C5及C6+的烃类

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Standardization Administration of the PRC**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document is Part 8 of GB/T 27894. GB/T 27894 has the following parts published.

---GB/T 27894.1 Determination of Composition of Natural Gas by Gas Chromatography and

Calculation of Related Uncertainties Part

1.General Guidelines and Composition calculation;

---GB/T 27894.2 Determination of Composition of Natural Gas by Gas Chromatography and Calculation of Related Uncertainties - Part

2.Uncertainties calculate;

---GB/T 27894.3 Determination of Composition of Natural Gas by Gas Chromatography and Calculation of Related Uncertainties Part

3.Precision and deviation;

---GB/T 27894.4 Determination of composition of natural gas by gas chromatography under certain uncertainties - Part

4.Laboratory and in-situ methods The online measurement system uses two chromatographic columns to determine nitrogen, carbon dioxide, and C1 to C5 and C6 hydrocarbons;

---GB/T 27894.5 Determination of composition of natural gas by gas chromatography under certain uncertainties - Part

5.Laboratory and in-situ methods The online process system uses three chromatographic columns to determine nitrogen, carbon dioxide, and C1 to C5 and C6 hydrocarbons;

---GB/T 27894.6 Determination of Composition of Natural Gas by Gas Chromatography under Certain Uncertainties - Part

6.Using Three Capillary Tapes A tubular chromatographic column was used to determine hydrogen, helium, oxygen, nitrogen, carbon dioxide, and C1 to C8 hydrocarbons;

1 Scope

GB/T 27894.8-2026 is the Chinese national standard covering the full composition of a gas from one micro-GC run, with its uncertainty - and notably including hydrogen, which the older parts of the series did not, because gas grids are now blending it. The composition is what the calorific value and therefore the invoice are calculated from. Part 8, first edition of this part. It was issued on 28 January 2026 and has been in force since 1 August 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document describes an analytical method for determining the composition of natural gas using a gas chromatograph equipped with a miniature thermal conductivity detector,

including reagents and materials. Materials, instruments, sampling, measurement procedures, test data processing, precision, etc. This document applies to online and offline detection of components in natural gas and similar gases, and the scope of application for determining the content (mole fraction) of each component is as follows: See Table 1 for the dimensions. Table

1. Determination range of content (mole fraction) of each component
Component determination range/% Hydrogen 0.01~

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

5 Nitrogen 0.01~

40 Carbon dioxide 0.01~

30 Methane 0.01~100 Ethane 0.01~

35 Propane 0.01~