

STN	Analýza zemného plynu Biometán Stanovenie obsahu terpénov mikroplynovou chromatografiou (ISO 2614: 2023)	STN EN ISO 2614 38 6132
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Analysis of natural gas - Biomethane - Determination of terpenes` content by micro gas chromatography (ISO 2614:2023)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Analysis of natural gas - Biomethane - Determination of terpenes' content by micro gas chromatography (ISO 2614:2023)

Analyse du gaz naturel - Biométhane - Détermination de la teneur en terpènes par micro-chromatographie en phase gazeuse (ISO 2614:2023)

Analyse von Erdgas - Analyse von Biomethan - Bestimmung des Terpengehaltes durch Mikrogaschromatographie (ISO 2614:2023)

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 2614:2023 (E)

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European foreword

This document (EN ISO 2614:2023) has been prepared by Technical Committee ISO/TC 193 "Natural gas" in collaboration with Technical Committee CEN/TC 408 "Natural gas and biomethane for use in transport and biomethane for injection in the natural gas grid" the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by March 2024, and conflicting national standards shall be withdrawn at the latest by March 2024.

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Endorsement notice

The text of ISO 2614:2023 has been approved by CEN as EN ISO 2614:2023 without any modification.

INTERNATIONAL
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2614

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**Analysis of natural gas — Biomethane
— Determination of terpenes' content
by micro gas chromatography**

*Analyse du gaz naturel — Biométhane — Détermination de la teneur
en terpènes par micro-chromatographie en phase gazeuse*



Reference number
ISO 2614:2023(E)

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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ISO 2614:2023(E)

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.

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This document was prepared by Technical Committee ISO/TC 193, *Natural gas*, Subcommittee SC 1, *Analysis of natural gas*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 408, *Natural gas and biomethane for use in transport and biomethane for injection in the natural gas grid*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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Introduction

Terpenes can occur naturally in biogas and remain as trace components after treatment in the biomethane produced. Terpenes are odoriferous compounds that have the potential to mask the smell of the odorant added to the biomethane before injection into the natural gas grid. For safety reasons it is necessary to monitor these impurities.

This document describes a method to perform the analysis of five terpenes in biomethane. The method includes both on-line and offline measurement techniques based on chromatography and can be of interest to fuel specifications for biomethane.

This document contributes to the standardization of the determination of terpenes in biomethane. The document relates to good housekeeping in supply of biomethane into the natural gas grid.

Analysis of natural gas — Biomethane — Determination of terpenes' content by micro gas chromatography

1 Scope

This document specifies a micro gas chromatography method for the on-line or offline determination of the content of five terpenes in biomethane, namely:

- alpha-pinene,
- beta-pinene,
- para-cymene,
- limonene,
- 3-carene.

The method is specifically developed for these five compounds. Information about the compounds is given in [Annex A](#).

The method is applicable to the determination of individual amount fractions of the five terpenes from 1 $\mu\text{mol/mol}$ up to and including 10 $\mu\text{mol/mol}$. With minor modifications it can also be used for terpene amount fractions above 10 $\mu\text{mol/mol}$.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6143, *Gas analysis — Comparison methods for determining and checking the composition of calibration gas mixtures*

ISO 10715, *Natural gas — Gas sampling*

ISO 14532, *Natural gas — Vocabulary*

ISO 16664, *Gas analysis — Handling of calibration gases and gas mixtures — Guidelines*

ISO 19229, *Gas analysis — Purity analysis and the treatment of purity data*

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