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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.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/23

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EN ISO 2614

September 2023

ICS

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)

This European Standard was approved by CEN on 2 September 2023.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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of an identical text or by endorsement, at the latest by March 2024, and conflicting national standards shall be withdrawn at the latest by March 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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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 STANDARD

ISO 2614

First edition
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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

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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 document 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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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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).

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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.

INTERNATIONAL STANDARD **ISO 2614:2023(E)**

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 µmol/mol up to and including 10 µmol/mol. With minor modifications it can also be used for terpene amount fractions above 10 µmol/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*