

STN	Ropný priemysel a ropné výrobky Stanovenie zloženia rafinérskych vykurovacích plynov a výpočet obsahu uhlíka a výhrevnosti Metóda plynovej chromatografie	STN EN 15984 65 6055
------------	--	--

Petroleum industry and products - Determination of composition of refinery heating gas and calculation of carbon content and calorific value - Gas chromatography method

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. 04/22

Obsahuje: EN 15984:2022

Oznámením tejto normy sa ruší
STN EN 15984 (65 6055) z marca 2018

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 15984

February 2022

ICS 75.160.30

Supersedes EN 15984:2017

English Version

**Petroleum industry and products - Determination of
composition of refinery heating gas and calculation of
carbon content and calorific value - Gas chromatography
method**

Industries et produits pétroliers - Détermination de la
composition des gaz combustibles de raffinerie, de leur
pouvoir calorifique et de leur teneur en carbone -
Méthode par chromatographie en phase gazeuse

Mineralölindustrie und -produkte - Bestimmung der
Zusammensetzung von Heizgas für Raffinerien und
Berechnung des Kohlenstoffgehaltes und des
Heizwertes - Gaschromatographisches Verfahren

This European Standard was approved by CEN on 24 December 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

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

EN 15984:2022 (E)**Contents**

Page

European foreword.....	3
1 Scope.....	4
2 Normative references.....	4
3 Terms and definitions	4
4 Principle	4
5 Reagents and materials.....	6
5.1 Gases.....	6
5.2 Calibration sample.....	6
6 Apparatus.....	6
7 Gas chromatographic analysis	6
7.1 Analysis systems.....	6
7.2 System configuration	7
7.3 Columns	7
8 Calibration	7
8.1 General.....	7
8.2 Absolute response factors.....	8
8.3 Relative response factors.....	8
9 Calculation	9
9.1 General.....	9
9.2 Calculation of the non-normalized mole fractions.....	9
9.3 Validation of normalized composition (reference components)	9
9.4 Calculation of carbon content.....	10
9.5 Calculation of lower calorific value, on mass basis.....	11
10 Expression of results.....	11
11 Precision.....	12
11.1 General.....	12
11.2 Repeatability.....	12
11.3 Reproducibility	12
12 Test report.....	12
Annex A (normative) Column combination.....	13
Annex B (normative) Detector linearity check.....	18
Annex C (informative) Calculation test data.....	20
Annex D (normative) Data for calculation	21
Annex E (informative) Precision estimates for the refinery gas composition	22
Bibliography.....	23

European foreword

This document (EN 15984:2022) has been prepared by Technical Committee CEN/TC 19 “Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin”, the secretariat of which is held by NEN.

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 August 2022, and conflicting national standards shall be withdrawn at the latest by August 2022.

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.

This document supersedes EN 15984:2017.

This revision contains a new informative Annex with estimated precision data for selected components in refinery gas.

This document is based on a DIN Standard [5] with the same scope.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 15984:2022 (E)**1 Scope**

This document defines a gas chromatographic analysis for the determination of the composition of fuel gases, as used in refinery heating gas. These results are used to calculate the carbon content and the lower calorific value.

With this gas chromatographic analysis, an overall of 23 refinery heating gas components are determined in concentrations as typically found in refineries (see Table 1 for further details).

Water is not analysed. The results represent dry gases.

NOTE 1 Depending on the equipment used, there is a possibility to determine higher hydrocarbons as well.

NOTE 2 For the purposes of this document, the terms “% (V/V)” is used to represent the volume fraction (φ).

IMPORTANT — This document does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices and determine the applicability of regulatory limitations.

2 Normative references

There are no normative references in this document.

koniec náhľadu – text ďalej pokračuje v platenej verzii STN