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STN	**Kvapaliny pre elektrotechnické aplikácie Špecifikácia plynov ako alternatíva k SF6 na použitie v elektrických energetických zariadeniach**	**STN EN IEC 63360** 34 6733

Fluids for electrotechnical application - Specification of gases alternative to SF6 to be used in electrical power equipment

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. 05/25

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN IEC 63360

March 2025

ICS 29.040.20

English Version

Fluids for electrotechnical application - Specification of gases alternative to SF6 to be used in electrical power equipment (IEC 63360:2025)

Fluides pour applications électrotechniques - Spécifications des gaz alternatifs au SF6 destinés à être utilisés dans les matériels électriques (IEC 63360:2025)

Flüssigkeiten für elektrotechnische Anwendungen - Spezifikation von Gasen als Alternative zu SF6 zur Verwendung in elektrischen Energieanlagen (IEC 63360:2025)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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

European foreword

The text of document 10/1219/FDIS, future edition 1 of IEC 63360, prepared by TC 10 "Fluids for electrotechnical applications" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63360:2025.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2026-03-31
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2028-03-31

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Endorsement notice

The text of the International Standard IEC 63360:2025 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 63359:—[1]	NOTE Approved as EN IEC 63359:—[2] (not modified)
IEC 62474:2018	NOTE Approved as EN IEC 62474:2019 (not modified)
IEC 60480:2019	NOTE Approved as EN IEC 60480:2019 (not modified)
IEC 60376:2018	NOTE Approved as EN IEC 60376:2018 (not modified)
IEC 62271-1:2017	NOTE Approved as EN 62271-1:2017 (not modified)
IEC 62271-1:2017/AMD1:2021	NOTE Approved as EN 62271-1:2017/A1:2021 (not modified)
IEC 62271-200:2021	NOTE Approved as EN IEC 62271-200:2021 (not modified)
IEC 62271-203:2022	NOTE Approved as EN IEC 62271-203:2022 (not modified)
IEC 80000 (series)	NOTE Approved as EN IEC 80000 (series)
ISO 80000 (series)	NOTE Approved as EN ISO 80000 (series)
ISO 80000-9:2019	NOTE Approved as EN ISO 80000-9:2019 (not modified)

[1] Under preparation. Stage at the time of publication: IEC/CD 63359:2024.

[2] Under preparation. Stage at the time of publication: prEN IEC 63359:2024.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60050-212	-	International Electrotechnical Vocabulary - Part 212: Electrical insulating solids, liquids and gases	-	-
IEC 60050-441	-	International Electrotechnical Vocabulary. Switchgear, controlgear and fuses	-	-
IEC 60050-826	-	International Electrotechnical Vocabulary - Part 826: Electrical installations	-	-
IEC 62271-4	2022	High-voltage switchgear and controlgear - Part 4: Handling procedures for gases for insulation and/or switching	EN IEC 62271-4	2022

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Edition 1.0 2025-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fluids for electrotechnical application – Specification of gases alternative to SF6 to be used in electrical power equipment

Fluides pour applications électrotechniques – Spécifications des gaz alternatifs au SF6 destinés à être utilisés dans les matériels électriques

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FLUIDS FOR ELECTROTECHNICAL APPLICATION − SPECIFICATION OF GASES ALTERNATIVE TO SF_6 TO BE USED IN ELECTRICAL POWER EQUIPMENT

FOREWORD

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IEC 63360 has been prepared IEC technical committee 10: Fluids for electrotechnical applications. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
10/1219/FDIS	10/1257/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

Considering the limited information for some of the data which appear in informative Annex A, the reader should be aware that the information related with possible gases alternative to SF_6 are still a matter of study.

FLUIDS FOR ELECTROTECHNICAL APPLICATION − SPECIFICATION OF GASES ALTERNATIVE TO SF_6 TO BE USED IN ELECTRICAL POWER EQUIPMENT

1 Scope

This document specifies the quality of gases alternative to SF_6 (subsequently referred to as gases) for use in electrical power equipment.

Detection techniques, applicable to the analysis of gases prior to their introduction into the electrical power equipment, are also described in this document.

Information about gases by-products and the procedure for evaluating the potential effects of gases and its by-products on human health are covered by IEC 63359[1][1] and IEC 62271-4.

It is the responsibility of the gas manufacturer to make available sufficient information for safe handling of gases and a risk assessment.

For gases not mentioned in this document, the electrical power equipment manufacturer and/or gas manufacturer provides the information indicated in this document. It is the intention of this document to include such gases in a next edition or in amendments to this edition. This document provides information to prepare risk assessment associated with the use of gases. It is the responsibility of the user of this document to establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

NOTE 1 Throughout this document, the term "pressure" stands for "absolute pressure".

NOTE 2 If not otherwise specified in this document, concentration values (e.g. %, ppmv, µl/l) of gas components or contaminants are given in volume fraction at 20 °C and 100 kPa. More information on temperature and pressure dependance of mole fraction and volume fraction is given in Annex C.

NOTE 3 If gases for electrical power equipment are regulated, their designation and regulation origin can be found in the IEC 62474 database [2] (available at https://std.iec.ch/iec62474 [viewed 2024-02-19]).

NOTE 4 Handling of gases is covered by IEC 62271-4:2022.

NOTE 5 Additional information is needed from gas manufacturer and/or electrical power equipment manufacturer to perform a full risk assessment.

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.

IEC 60050-212, *International Electrotechnical Vocabulary (IEV) – Part 212: Electrical insulating solids, liquids and gases* (available at http://www.electropedia.org)

IEC 60050-441, *International Electrotechnical Vocabulary (IEV) – Part 441: Switchgear, controlgear and fuses* (available at http://www.electropedia.org)

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1 Numbers in square brackets refer to the Bibliography.

IEC 60050-826, *International Electrotechnical Vocabulary (IEV) – Part 826: Electrical installations* (available at http://www.electropedia.org)

IEC 62271-4:2022, *High-voltage switchgear and controlgear – Part 4: Handling procedures for gases for insulation and/or switching*