

SLOVENSKI STANDARD

oSIST prEN IEC 61563:2020

01-november-2020

Instrumenti za zaščito pred sevanjem - Oprema za merjenje specifične aktivnosti radionuklidov, ki oddajajo gama žarke v živila

Radiation protection instrumentation - Equipment for measuring specific activity of gamma-emitting radionuclides in foodstuffs

iTeh STANDARD PREVIEW
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Instrumentation pour la radioprotection - Équipement de mesure de l'activité spécifique de radionucléides émetteurs gamma dans les aliments

<https://standards.iteh.ai/catalog/standards/sist/96e2d245-5a8f-4c2c-b534-0c7571ff31cd/sist-prEN-IEC-61563-2020>

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ICS:

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Varstvo pred sevanjem

Radiation protection

oSIST prEN IEC 61563:2020

en

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN IEC 61563

September 2020

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English Version

**Radiation protection instrumentation - Equipment for measuring
specific activity of gamma-emitting radionuclides in foodstuffs
(IEC 61563:2019)**

Instrumentation pour la radioprotection - Équipement de
mesure de l'activité spécifique de radionucléides émetteurs
gamma dans les aliments
(IEC 61563:2019)

To be completed
(IEC 61563:2019)

This draft European Standard is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2020-12-18.

The text of this draft consists of the text of IEC 61563:2019.

If this draft becomes a European Standard, CENELEC 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.

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

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

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

prEN IEC 61563:2020 (E)**European foreword**

This document (prEN IEC 61563:2020) consists of the text of document IEC 61563:2019, prepared by IEC/TC 45 "Radiation protection instrumentation"

This document is currently submitted to the CENELEC Enquiry.

The following dates are proposed:

- latest date by which the existence of this document has to be announced at national level (doa) dor + 6 months
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) dor + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) dor + 36 months (to be confirmed or modified when voting)

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

IEC 60846-1	NOTE	Harmonized as EN 60846-1
IEC/TR 62461	NOTE	Harmonized as CLC IEC/TR 62461

SIST EN IEC 61563:2021

<https://standards.iteh.ai/catalog/standards/sist/96e2d245-5a8f-4c2c-b534-0c7571ff31cd/sist-en-iec-61563-2021>

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 When 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.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60086-2	-	Primary batteries - Part 2: Physical and electrical specifications	EN 60086-2	-
IEC 60529	-	Classification of degrees of protection provided by enclosures	HD 365 S3	-
IEC 61187 (mod)	-	Electrical and electronic measuring equipment - Documentation	EN 61187	-
			+EN 61187:1994/corrigendum Mar. 1995	1995
IEC 62706	-	Radiation protection instrumentation - Environmental, electromagnetic and mechanical performance requirements	-	-
ISO 11929	-	Determination of the characteristic limits (decision threshold, detection limit and limits of the confidence interval) for measurements of ionizing radiation - Fundamentals and application	-	-



IEC 61563

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Radiation protection instrumentation –
Equipment for measuring the activity concentration of gamma-emitting
radionuclides in foodstuffs**

**Instrumentation pour la radioprotection –
Équipement de mesure de la concentration d'activité des radionucléides
émetteurs gamma dans les aliments**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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CONTENTS

FOREWORD	5
1 Scope	7
2 Normative references	7
3 Terms and definitions, abbreviated terms, quantities, units and symbols	8
3.1 Terms and definitions	8
3.2 Quantities and units	11
3.3 Symbols	11
4 General test procedure	12
4.1 Nature of tests	12
4.2 Reference conditions and standard test conditions	12
4.2.1 General	12
4.2.2 Tests performed under standard test conditions	12
4.2.3 Tests performed with variation of influence quantities	12
4.3 Instrument set-up during tests	13
4.4 Statistical fluctuations	13
4.5 Standard sources and reference sources	13
4.6 Check sources	13
4.7 Functionality tests	13
4.7.1 General	13
4.7.2 Stability and reproducibility of the source-detector geometry	14
4.7.3 Combination of functionality tests and performance tests	14
4.7.4 Conduct of functionality tests	14
4.7.5 Regular operation behaviour	14
5 General requirements	14
5.1 General characteristics	14
5.2 Type of instrument	15
5.2.1 General	15
5.2.2 Instrument types	15
5.2.3 Measurement type	15
5.3 Physical configuration	16
5.3.1 General	16
5.3.2 Detection sub-assembly	16
5.3.3 Measurement sub-assembly	16
5.3.4 Electric power supply	17
5.3.5 Storage and transportation	17
5.3.6 IP (degree of protection) classification	17
5.4 Basic information	17
5.4.1 Effective range of measurement	17
5.4.2 Range of measurement energy	18
5.4.3 Instrument background	18
5.4.4 Detection limit	18
5.5 Data output	20
5.6 User interface	20
5.7 Markings	20
6 Radiation detection requirements	21
6.1 Consideration of the uncertainty of the conventional true value	21

6.2	Determination of radionuclide activity conversion factor	21
6.3	Response to check sources	22
6.3.1	Requirements	22
6.3.2	Method of test.....	22
6.4	Linearity.....	22
6.4.1	Requirements	22
6.4.2	Method of test.....	22
6.5	Detection limit.....	22
6.5.1	Requirements	22
6.5.2	Method of test.....	23
6.6	Response to external gamma-radiation	23
6.6.1	Requirements	23
6.6.2	Method of test.....	23
6.7	Measurement under interference.....	23
6.7.1	Requirements	23
6.7.2	Method of test.....	23
6.8	Statistical fluctuation.....	23
6.8.1	Requirements	23
6.8.2	Method of test.....	24
6.9	Overload characteristics	24
6.9.1	Requirements	24
6.9.2	Method of test.....	24
6.10	Warm up time	24
6.10.1	Requirements	24
6.10.2	Method of test.....	24
6.11	Battery.....	25
6.11.1	Requirements	25
6.11.2	Method of test.....	25
7	Environmental requirements	25
7.1	General requirements	25
7.2	Functionality test.....	25
7.3	Ambient temperature.....	25
7.3.1	Requirements	25
7.3.2	Method of test.....	26
7.4	Temperature shock	26
7.4.1	Requirements	26
7.4.2	Method of test.....	26
7.5	Relative humidity	26
7.5.1	Requirements	26
7.5.2	Method of test.....	26
8	Mechanical requirements.....	27
8.1	General requirements	27
8.2	Functionality test.....	27
8.3	Mechanical shock	27
8.3.1	Requirements	27
8.3.2	Method of test.....	27
8.4	Vibration test	27
8.4.1	Requirements	27
8.4.2	Method of test.....	28

9	Electromagnetic requirements	28
9.1	General requirements	28
9.2	Functionality test.....	28
9.3	External electromagnetic fields	28
9.3.1	Requirements	28
9.3.2	Method of test.....	28
9.4	External magnetic fields	28
9.4.1	Requirements	28
9.4.2	Method of test.....	29
9.5	Electrostatic discharge.....	29
9.5.1	Requirements	29
9.5.2	Method of test.....	29
9.6	Conducted radio frequency	29
9.6.1	Requirements	29
9.6.2	Method of test.....	29
9.7	Surge immunity	29
9.7.1	Requirements	29
9.7.2	Method of test.....	29
9.8	Power supply change.....	30
9.8.1	Requirements	30
9.8.2	Method of test.....	30
10	Documentation	30
10.1	General.....	30
10.2	Type test report or certificate	30
10.3	Certificate	30
10.4	Operation and maintenance manuals	31
Annex A	(normative) Test conditions.....	32
Annex B	(normative) Criteria of tests	33
Annex C	(informative) Sample format of measuring report	34
	Bibliography.....	35
	Table 1 – Symbols	11
	Table A.1 – Reference conditions and standard test conditions.....	32
	Table B.1 – Summary table of criteria of tests.....	33

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIATION PROTECTION INSTRUMENTATION – EQUIPMENT FOR MEASURING THE ACTIVITY CONCENTRATION OF GAMMA-EMITTING RADIONUCLIDES IN FOODSTUFFS

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard 61563 has been prepared by subcommittee 45B: Radiation protection instrumentation, of IEC technical committee 45: Nuclear instrumentation.

This second edition cancels and replaces the first edition published in 2001. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) The previous edition applied to handheld-type and portable-type instruments. This edition applies to transportable-type and installed-type instruments, as well as the scope of the previous edition. The handheld-type and portable-type instruments are mainly used in case of a post accidental situation, however, the transportable-type and installed-type instruments can be used through recovery phase.
- b) Uncertainty of measurement according to GUM is introduced.
- c) Detection limit defined in ISO 11929 is introduced to specify a minimum detectable activity.

- d) Environmental requirements, mechanical requirements and electromagnetic requirements are updated according to IEC 62706.
- e) Sample format of measuring report is introduced as Annex C (informative).

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

FDIS	Report on voting
45B/931/FDIS	45B/936/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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RADIATION PROTECTION INSTRUMENTATION – EQUIPMENT FOR MEASURING THE ACTIVITY CONCENTRATION OF GAMMA-EMITTING RADIONUCLIDES IN FOODSTUFFS

1 Scope

This document applies to instruments used to measure the activity and/or activity concentration of gamma-emitting radionuclides in food and/or foodstuffs. This document applies to instruments used both as gross count type instruments and pulse height analysing type instruments used in field conditions and in measurement facilities. This document does not apply to high-resolution spectrometers that use germanium detectors.

The instruments to which this document applies can be used to measure the activity and activity concentration of gamma-emitting radionuclides for a wide variety of samples, such as soil, sewage, plant, and animal life.

The object of this document is to establish performance requirements, to provide test methods and to specify general characteristics, general test conditions, and radiological, environmental, mechanical and electromagnetic characteristics to be used to determine whether an instrument meets the requirements of this document. The test results provide information to end-users and manufacturers regarding the capability of instrument for reliable measurement of the activity and/or activity concentration of gamma-emitting radionuclides.

This document does not apply to sample preparation.

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 60050-395, *International Electrotechnical Vocabulary (IEV) – Part 395: Nuclear instrumentation: Physical phenomena, basic concepts, instruments, systems, equipment and detectors*

IEC 60086-2, *Primary batteries – Part 2: Physical and electrical specifications*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 61187, *Electrical and electronic measuring equipment – Documentation*

IEC 62706, *Radiation protection instrumentation – Environmental, electromagnetic and mechanical performance requirements*

ISO 11929, *Determination of the characteristic limits (decision threshold, detection limit and limits of the coverage interval) for measurements of ionizing radiation – Fundamentals and application*