

TECHNICAL REPORT



Radiation instrumentation – Radiation sources used in illicit trafficking detection standards – Guidance and recommendations

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RADIATION INSTRUMENTATION –
RADIATION SOURCES USED IN ILLICIT
TRAFFICKING DETECTION STANDARDS –
GUIDANCE AND RECOMMENDATIONS**

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IEC TR 62971, which is a technical report, has been prepared by subcommittee 45B: Radiation protection instrumentation, of IEC technical committee 45: Nuclear instrumentation.

The text of this technical report is based on the following documents:

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

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

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

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- withdrawn,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

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RADIATION INSTRUMENTATION – RADIATION SOURCES USED IN ILLICIT TRAFFICKING DETECTION STANDARDS – GUIDANCE AND RECOMMENDATIONS

1 Scope

This Technical Report (TR) provides guidance and recommendations regarding the availability and use of radiation sources that are needed when testing and evaluating instruments used for the detection of illicit trafficking of radioactive material. The relevant standards are listed in 4.1. Guidance includes the use of surrogate or replacement radioactive materials that could be more easily obtained.

The object of this Technical Report is to provide guidance to instrument manufacturers, users, and testing organisations as to the selection and possible use of radiation sources, source surrogates and source simulation tools when testing and evaluating an instrument's ability to detect and identify illicit trafficking of radioactive material.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 – Part 395: Nuclear instrumentation: Physical phenomena, basic concepts, instruments, systems, equipment and detectors*