DOC: CHD 30 (28646)WC
IS XXXX:XXXX
ISO 19581: 2017
September 2025

BUREAU OF INDIAN STANDARDS

Draft Indian Standard

Measurement of Radioactivity — Gamma Emitting Radionuclides — Rapid Screening Method Using Scintillation Detector Gamma-Ray Spectrometry

भारतीय मानक मसौदा

रेडियोधर्मिता का मापन - गामा उत्सर्जक रेडियोन्यूक्लाइड - प्रस्फुरण संसूचक गामा-रे स्पेक्ट्रोमेट्री का उपयोग करने वाली त्वरित स्क्रीनिंग विधि

(ICS 17.240)

Nuclear Energy for Peaceful Applications Sectional Committee, CHD 30	**Last Date for Comments**: **31st October 2025**

Nuclear Energy for Peaceful Applications Sectional Committee, CHD 30

NATIONAL FOREWORD

(Formal clauses will be added later)

This standard focuses on radiological protection and the measurement of radioactivity. It specifies a rapid screening method for quantifying the activity concentration of gamma-emitting radionuclides—such as ^{131}I, ^{132}Te, ^{134}Cs and ^{137}Cs —in both solid and liquid test samples. The method utilizes gamma-ray spectrometry with lower-resolution scintillation detectors, providing a faster alternative to high-purity germanium (HPGe) detectors (refer to IEC 61563), while maintaining reliable detection suitable for screening purposes.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions and terminologies are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words `International Standard' appear referring to this standard, they should be read as `Indian Standard'.

b) Comma (,) has been used as a decimal marker in the International Standard, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

International Standards/documents	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories	IS/ISO/IEC 17025 : 2017 General requirements for the competence of testing and calibration laboratories (*second revision*)	Identical

The technical committee has also reviewed the provisions of the following International Standards/ documents referred in this adopted standard and has decided that they are acceptable for use in conjunction with this Standard:

International Standards/ documents	*Title*
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 61453	Nuclear instrumentation — Scintillation gamma ray detector systems for the assay of radionuclides – Calibration and routine tests
ISO 80000-10	Quantities and units — Part 10: Atomic and nuclear physics

In this adopted standard, reference appears to certain International Standards/documents where the standard atmospheric conditions to be observed are stipulated which are not applicable to tropical/subtropical countries. The applicable standard atmospheric conditions for Indian conditions are (27 ± 2) ℃ and (65 ± 5) percent relative humidity and shall be observed while using this standard.

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values *(second revision*)’.

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FOR COMPLETE TEXT OF THE DOCUMENT, KINDLY REFER ISO 19581: 2017

Note: The technical content of the document has not been enclosed as these are identical with the corresponding ISO Standard. For obtaining the copy of the complete ISO Standard, please contact:

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