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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 10264-2014

Replacing GB/T 10264-1988

**Thermoluminescence dosimetry for personal and
environmental monitoring**

个人和环境监测用热释光剂量测量系统

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard replaces GB/T 10264-1988 "personal and environmental monitoring thermal dosimetry system", and GB/T 10264-1988 Compared to the main technical changes are as follows.

--- Standard text structural changes to prepare the format and technical content by IEC 61066:2006.

--- "1" and no longer distinguish between the energy range of environmental monitoring and personal monitoring for Hp (10) and H * (10), photon radiation energy the amount of range extension of 12keV ~ 7MeV, beta radiation of maximum energy range extended to 225keV ~ 3.54MeV, an increase of in Hp (0.07) photon radiation energy range 8keV ~ 250keV.

--- Added "2 normative references."

--- "3 Terms and Definitions" modify, supplement the terms and their definitions.

--- "4 units and symbols" to increase the dose equivalent units Greek [Waters] (Sv) and Table 1, "Symbols and abbreviations."

--- Product no longer follow the original method does not distinguish between environmental dosimeters and personal dosimeters performance requirements.

--- Technical requirements change.

- Type test reference conditions, radiation background is less than 0.1 μ Sv/h, the reference radiation is S-Cs, N-80;

- standard test conditions for type testing, beta reference radiation source is a 90Sr/90Y; gamma radiation background $\leq 0.25\mu$ Sv/h;

- Evaluation of the performance of dosimetry system has been simplified and principled;

- increasing the dose measurement system software, and interface parameters of performance requirements.

This standard uses the translation method identical with IEC 61066:2006 "Personal and

environmental monitoring thermoluminescence dosimetry system." the standard IEC 61066:2006 made the following editorial changes.

--- "2 Normative references" to the new standard replaces the old version of the standard (to IEC 60050-394:2007 instead of IEC 60050-394:1995) and has corresponding national standards with international standards to our standards;

--- The "2 Normative references" in ISO 4037-1, ISO 4037-2, ISO 4037-3 and ISO 4037-4 combined to ISO 4037 (All parts), the ISO 8529-1, ISO 8529-2 and ISO 8529-3 combined to ISO 8529 (all parts);

--- Remove the body does not appear in the IEC 60359:2001;

--- In the text in Tables 3 to 5 later, press the Chinese practice of using [0.71,1.67] instead of [0.71..1.67] represents the data interval;

--- In order to facilitate the following description in line with Chinese habits, 11.9.3 "Group 1 (the reference group). the nominal voltage and nominal frequency" was changed to "Group 1 (the reference group). Nominal voltage (Un), the nominal frequency (fn)";

--- Increased appendix NA "Normative references in this standard correspondence documents of international documents and files." this standard by the National Nuclear Instrument Standardization Technical Committee (SAC/TC30) and focal points.

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Introduction

Thermal dosimetry system (TLD) by the following components.

- a) passive components (in the middle of this standard dosimeter). one or more radiation detectors and some methods of identification;
- b) the reader. heating after exposure to ionizing radiation detectors and measuring the amount of light emitted by the heating used to determine the radiation dose;
- c) the reader with a computer control software. memory readout data coming from paper to electronic documents or text computing, Evaluation of dose data display and storage;
- d) auxiliary equipment and program files (manual). used for correlation processing, for example, the dose delete stored information, clean dose Meter or the whole system to ensure the necessary effectiveness.

Personal and environmental monitoring thermal dosimetry system