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

GB/T 29788-2013

**Radiation protection instrumentation -- Portable photon
contamination meters and monitors**

辐射防护仪器 便携式表面污染光子测量仪和监测仪

(English Translation)

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Foreword

Accordance with the standards GB/T 1.1-2009. Drafting Rules "Standardization Guide Part 1 standard structure and preparation of" given.

This standard uses the translation method identical with IEC 62363:2008 "Radiation protection instrumentation - Portable photon surface contamination meter and monitoring instrument".

Consistency correspondence with international standards in this standard references of the following documents.

--- GB/T 2423.5-1995 Environmental testing for electric and electronic products Part 2. Test methods Test Ea and guidance. Shock (IEC 60068-2-27. 1987, IDT);

--- GB/T 8897 (all parts) primary cells [IEC 60086 (all parts)].

For ease of use, the standard of IEC 62363:2008 made the following editorial changes.

--- Will be in "2 Normative references" existing national standards and industry standards relevant international standards to our standards; deleted BIPM are not referenced in the text, "International System of Units (SI)" (1998 Edition No. 7);

--- Deleting some IEV defined below in "3 Terms and definitions", ISO number;

--- Increased 5.1 and 6.3 Item Description column symbol "---";

--- 7.1.1 Description column item by the symbol "*" to "---";

--- 7.2.2, paragraph 4 "Ms" should "Mi";

--- 8.5.1 Description column item by the symbol "*" to "---", "applicable nuclide is." After the increase the column item description the symbol "---" will be half the years of decline to a;

--- 8.6.1 Increase Column Item Description symbol "---";

--- Table 3 "detection limit" "the range of values of influence quantities" column using the "equivalent dose rate", and is used in 8.10.1 in "air ratio Kerma rate "consistent use" air kerma rate";

--- Table 3 "warm-up time" column "indicative value change limit" use "reference conditions", and is used in the 7.4.1 "Standard Test Article Member ", uniform use of" standard test conditions";

--- Note 1 of Table A.1 deleting brackets "are 1 inch, 2 inches and 3 inches." the standard proposed by the Defense Science and Technology Industrial Development Bureau.

This standard by the National Nuclear Instrument Standardization Technical Committee (SAC/TC30) centralized.

This standard was drafted. Xi'an Nuclear Instrument Factory.

1 Scope

This standard applies to the direct measurement or detection directly caused by the emitted photon radiation nuclides surface contamination of portable and mobile pollution test Meter and monitor, which includes at least.

--- Detection device (counter, scintillation detector or a semiconductor detector, etc.), they can use a rigid connection or cable connection or group into a single device;

--- Measuring device.

This standard applies to.

--- Photon surface contamination measuring instrument;

--- Photon surface contamination monitors.

This standard applies to the measurement of photons emitted energy exceeding 5keV nuclides pollution detection device. This standard is used to evaluate that particular these objects are not proof performance of the device emitted photon surface contamination by radionuclides.

This standard also applies to those with special-purpose instrumentation and provides limited spectral information for the user specially designed instruments.

Note: These detection means may be used to measure photon radiation while producing alpha and beta radiation nuclides produced, in this case, according to the type of contamination shield alpha and beta radiation. Strictly speaking, if the shield, contamination occurs in the vicinity of the object being monitored, rather than on its surface.

The purpose of this standard is to provide standards and give some examples of suitable

methods, also provides for photon contamination meters and monitors General characteristics, general test conditions, radiation characteristics, electrical safety, environmental characteristics and certificate requirements.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 2900.81-2008 Electrotechnical terminology Nuclear Instruments Physical phenomena and basic concepts (IEC 60050-393:2003, IDT) GB/T 2900.82-2008 Electrotechnical terminology nuclear instrumentation equipment, systems, equipment and detectors (IEC 60050-394:2007, IDT) GB/T 5202-2008 Radiation protection instrumentation alpha, beta and alpha/beta (beta energy greater than 60keV) contamination meters and monitors (IEC 60325:2002, IDT) GB/T 12128.2-1999 for the calibration of surface contamination monitors - Part 2 Reference Source. Energy lower than the electric 0.15MeV Son and photon energy below 1.5MeV (ISO 8769-2:1996, IDT) GB/T 14056.1-2008 surface contamination - Part 1. beta emitters (Ebetamax > 0.15MeV) and alpha emitters (ISO 7503-1. 1988, IDT) GB/T 16511-1996 Electrical and electronic measuring equipment - Documentation (IEC 61187:1993, IDT) OK Part 1 EJ/T 1204.1-2006 measuring ionizing radiation detection limit and decision threshold. Ignore the influence of sample treatment meter the number of measurements (ISO 11929-1:2000, IDT) IEC 60068-2-27 Environmental testing Part 2. Tests - Test Ea and guidance. Shock (Environmentaltesting-Part 2. Tests-TestEaandguidance. Shock) IEC 60086 (all parts) primary cells (Primmarybatteries)