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# **Reference neutron radiations —**

## **Part 1:**

### **Characteristics and methods of production**

*Rayonnements neutroniques de référence —*

*Partie 1: Caractéristiques et méthodes de production*



Reference number  
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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 8529 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 8529-1 was prepared by Technical Committee ISO/TC 85, *Nuclear energy*, Subcommittee SC 2, *Radiation protection*.

ISO 8529 consists of the following parts, under the general title *Reference neutron radiations*:

- *Part 1: Characteristics and methods of production*
- *Part 2: Calibration fundamentals of radiation protection devices related to the basic quantities characterizing the radiation field*
- *Part 3: Calibration of area and personal dosimeters and determination of response as a function of energy and angle of incidence*

Annexes A and C form a normative part of this part of ISO 8529. Annex B is for information only.

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## Introduction

This part of ISO 8529 supersedes ISO 8529:1989. It is the first of a set of three International Standards concerning the calibration of dosimeters and dose-rate meters for neutron radiation for protection purposes. It describes the characteristics and methods of production of the reference neutron radiations to be used for calibrations. ISO 8529-2 describes fundamentals related to the physical quantities characterizing the radiation field and calibration procedures in general terms, with emphasis on active dose-rate meters and the use of radionuclide sources. ISO 8529-3 deals with dosimeters for area and individual monitoring, describing the respective procedures for calibrating and determining the response in terms of the International Commission on Radiation Units and Measurements (ICRU) operational quantities. Conversion coefficients for converting neutron fluence into these operational quantities are provided in ISO 8529-3.