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Food irradiation — Requirements for the development, validation and routine control of the process of irradiation using ionizing radiation for the treatment of food

Ionisation des aliments — Exigences pour l'élaboration, la validation et le contrôle de routine du procédé d'irradiation utilisant le rayonnement ionisant dans le traitement des aliments



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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 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 14470 was prepared by Technical Committee ISO/TC 34, *Food products*.

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Introduction

Food irradiation is the process where food is exposed to ionizing radiation in order to improve its safety and quality. It is intended to be used only on food that has been produced under good manufacturing practice (GMP) principles. Many countries are using irradiation as a technological choice at some stage in food processing, making relevant the establishment of standards to assist customers, irradiator operators, and consumers.

The irradiation of food can be used for different purposes including control of pathogenic microorganisms and parasites, reduction of the number of spoilage microorganisms, inhibition of the sprouting of bulbs, tubers and root crops, extension of product shelf life or phytosanitary treatment.

When applicable, food irradiation should be incorporated as part of a food safety management system (ISO 22000). The irradiation of food is a critical control point (CCP) of a Hazard Analysis and Critical Control Points (HACCP) programme, contributing to the minimization of risks from the transmission of pathogenic microorganisms to consumers.

The main purposes of this International Standard are to:

- a) provide requirements for the irradiation of food consistent with current standards and practices;
- b) provide directions for a technical agreement between the customer and the irradiator operator;
- c) establish a documentation system to support the controls on the food irradiation process.

To facilitate the application of this International Standard, it has been constructed in a form that can be used by internal and external parties, including certification bodies, for auditing an irradiator operator to assess its ability to fulfil all requirements for the irradiation of food.