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Aseptisk behandling av medicintekniska produkter – Del 7: Alternativa processer för medicintekniska produkter och kombinerade produkter (ISO 13408-7:2012)

Aseptic processing of health care products – Part 7: Alternative processes for medical devices and combination products (ISO 13408-7:2012)

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The European Standard EN ISO 13408-7:2015 has the status of a Swedish Standard. This document contains the official English version of EN ISO 13408-7:2015.

Förhållandet till övriga delar under samma huvudtitel - Utdrag ur Förord i ISO 13408-7:2012/
Relations to other parts under the same general title - Extract from the Foreword of ISO 13408-7:2012

ISO 13408 consists of the following parts, under the general title *Aseptic processing of health care products:*
- *Part 1: General requirements*
- *Part 2: Filtration*
- *Part 3: Lyophilization*
- *Part 4: Clean-in-place technologies*
- *Part 5: Sterilization in place*
- *Part 6: Isolator systems*
- *Part 7: Alternative processes for medical devices and combination products*

Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Rengöring, desinfektion och sterilisering, SIS/TK 349.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 13408-7

August 2015

ICS 11.080.01

English Version

Aseptic processing of health care products - Part 7: Alternative processes for medical devices and combination products (ISO 13408-7:2012)

Traitement aseptique des produits de santé - Partie 7: Procédés alternatifs pour les dispositifs médicaux et les produits de combinaison (ISO 13408-7:2012)

Aseptische Herstellung von Produkten für die Gesundheitsfürsorge - Teil 7: Alternative Verfahren für Medizinprodukte und Kombinationsprodukte (ISO 13408-7:2012)

This European Standard was approved by CEN on 30 July 2015.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

The text of ISO 13408-7:2012 has been prepared by Technical Committee ISO/TC 198 “Sterilization of health care products” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 13408-7:2015 by Technical Committee CEN/TC 204 “Sterilization of medical devices” the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2016, and conflicting national standards shall be withdrawn at the latest by February 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directives.

For relationship with EU Directives, see informative Annexes ZA, ZB and ZC, which are integral parts of this document.

The following referenced documents are indispensable for the application of this document. For undated references, the edition of the referenced document (including any amendments) listed below applies. For dated references, only the edition cited applies. However, for any use of this standard within the meaning of Annex ZA, ZB or ZC, the user should always check that any referenced document has not been superseded and that its relevant contents can still be considered the generally acknowledged state-of-art.

When an IEC or ISO standard is referred to in the ISO standard text, this should be understood as a normative reference to the corresponding EN standard, if available, and otherwise to the dated version of the ISO or IEC standard as listed below.

NOTE The way in which these referenced documents are cited in normative requirements determines the extent (in whole or in part) to which they apply.

Table – Correlation between normative references and dated EN and ISO standards

Normative references as listed in Clause 2 of the ISO standard	Equivalent dated standard	
	EN	ISO
ISO 13408-1:2008	EN ISO 13408-1:2015	ISO 13408-1:2008

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 13408-7:2012 has been approved by CEN as EN ISO 13408-7:2015 without any modification.

Introduction

ISO 13408 is the International Standard, published in a series of parts, for aseptic processing of health care products. Historically, sterile health care products that are aseptically produced have typically been liquids, powders or suspensions that cannot be terminally sterilized. More recently, medical devices and health care products have been developed that are combined with medicinal products, including biological and viable cells, that cannot be terminally sterilized.

The application of ISO 13408-1 to these medical devices and combination products can require the development of alternative approaches to process simulation. This part of ISO 13408 specifies requirements and provides guidance for developing such alternative approaches for the qualification of aseptic processes through process simulation of medical devices and combination products that meet the requirements of ISO 13408-1.

ISO 13408-1:2008, 10.1.2 permits the use of alternative process simulation approaches, based on particular medical devices or combination products, where the substitution in full with sterile liquid media might not be possible.

Medical devices and combination products that typically require aseptic processing might include, for example, the following.

a) Medical devices that cannot be terminally sterilized and where the process simulation approach according to ISO 13408-1 cannot be applied:

   — bioprostheses (e.g. heart valves, vascular implants);

   — biodegradable implants (e.g. hernia meshes);

   — artificial and/or non-viable biologically based matrixes;

   — extracorporeal processing devices (e.g. immuno-adsorbers);

   — implantable osmotic pumps;

   — hermetically sealed electromechanical devices and partially enclosed electronic devices (e.g. invasive and non-invasive diagnostic devices).

b) Combination products (including viable cell-based combination products):

   — implants coated with drug and/or biologically derived substances (e.g. drug-coated stents, carrier materials with protein, bone-graft material with growth factors, biodegradable drug-coated stents);

   — wound dressings (e.g. dressings with haemostatic agents, tissue sealants, or biologics);

   — transdermal or injectable delivery systems (e.g. drug-coated or biologics interstitial patches);

   — kits containing a biological or drug component (e.g. demineralized bone matrices).

For such products, a risk management strategy and method(s) can be used for the identification, evaluation and quantification (estimation) of contamination risks throughout the entire product/process life cycle. Environmental monitoring and microbiological studies can be performed on individual steps of the process to evaluate the effectiveness of contamination controls and risk mitigations. The design of the process simulation can then be driven by the results of the risk analysis. If the results of the process simulation are acceptable, this provides evidence that the aseptic process is in a state of contamination control (i.e. no extrinsic microbiological/microbial contamination has been introduced during the aseptic process).

This part of ISO 13408 should be read in conjunction with ISO 13408-1.

Within this International Standard, text that supplements ISO 13408-1 by providing additional requirements or guidance is identified by the prefix “Addition”.

Aseptic processing of health care products —

Part 7:
Alternative processes for medical devices and combination products

1 Scope

This part of ISO 13408 specifies requirements and provides guidance on alternative approaches to process simulations for the qualification of the aseptic processing of medical devices and combination products that cannot be terminally sterilized and where the process simulation approach according to ISO 13408-1 cannot be applied.

This part of ISO 13408 describes how risk assessment can be used during the development of an aseptic process to design a process simulation study for medical devices and combination products in those cases where a straightforward substitution of media for product during aseptic processing is not feasible or would not simulate the actual aseptic process.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 13408-1:2008, *Aseptic processing of health care products — Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13408-1 and the following apply.

3.1
extrinsic contamination
ingress of material of external origin during the manufacturing process

NOTE The focus of extrinsic contamination in this part of ISO 13408 is biological agents e.g. bacteria, mould, yeast.

3.2
process simulation
exercise that simulates the manufacturing process or portions of the process in order to demonstrate the capability of the aseptic process to prevent biological contamination

3.3
risk management
systematic application of quality management policies, procedures and practices to the tasks of analysing, evaluating, controlling and monitoring risk

[ISO 14971:2007, definition 2.22]

3.4
surrogate product
item designed to represent product in process simulations and which is comparable to the actual product

4 Quality system elements

ISO 13408-1:2008, Clause 4 applies.

5 Aseptic process definition

5.1 General

ISO 13408-1:2008, 5.1 applies.

5.2 Risk management

5.2.1 General

ISO 13408-1:2008, 5.2.1 applies with the following additional requirements.

a) Risk assessment shall consider all steps of the aseptic process and determine whether the aseptic process is to be simulated in one continuous process or divided into sub-processes for the purposes of process simulation.

   Risk assessment shall not be used to justify the simulation of only some but not all of the processes of an aseptic process.

   NOTE 1 Successful process simulation provides evidence of the capability of the specified aseptic process to produce an acceptable overall residual risk of microbiological/microbial contamination.

   NOTE 2 The risk assessment method selected should be appropriate for the given stage of aseptic process development.

b) A comprehensive risk assessment process may not be required for the design of the process simulation in instances where the approach is readily discernable. The rationale for the decisions reached shall be documented.

5.2.2 Identification of microbiological contamination risks

ISO 13408-1:2008, 5.2.2 applies.

5.2.3 Assessment of contamination risks

ISO 13408-1:2008, 5.2.3 applies.

5.2.4 Monitoring and detection of contamination

ISO 13408-1:2008, 5.2.4 applies.

5.2.5 Prevention of contamination

ISO 13408-1:2008, 5.2.5 applies.

The following additional requirements to ISO 13408-1:2008, 5.2, concerning risk management, apply:

5.2.6 Use of risk assessment during the development and initial qualification of the aseptic process prior to commercial production

5.2.6.1 An acceptable level of contamination risk shall be defined. A risk assessment shall be performed during the development of the aseptic process. Risk control measures to prevent microbiological/microbial contamination for each step in the aseptic process shall be identified.

5.2.6.2 The estimation of contamination risk by quantitative methods and the verification of effectiveness of risk mitigation procedures shall be determined. Methods such as microbiological and particulate monitoring of the product, personnel and environment may be used.

NOTE Quantitative risk modelling can also be applied.

5.2.6.3 The outcome of the risk assessment shall be used in the design of the process simulation study.

5.2.6.4 Risk management shall be applied iteratively. The risk assessment shall be updated as necessary as the aseptic process develops and changes during development.

5.2.7 Use of risk assessment for the aseptic process simulation for process validation of commercial production

Risk assessment shall be used to design the process simulation for validation of the commercial aseptic process. Risk assessment shall identify those actions to be included in the process simulation and their appropriateness.

NOTE Annex A provides a practical application of risk management in designing a process simulation for a combination drug/device.

6 Manufacturing environment

ISO 13408-1:2008, Clause 6 applies.

7 Equipment

ISO 13408-1:2008, Clause 7 applies.

8 Personnel

ISO 13408-1:2008, Clause 8 applies.

9 Manufacture of the product

ISO 13408-1:2008, Clause 9 applies.

10 Process simulation

10.1 General

ISO 13408-1:2008, 10.1 applies.

10.2 Media selection and growth support

ISO 13408-1:2008, 10.2 applies.

10.3 Simulation procedures

ISO 13408-1:2008. 10.3.1 applies with the following additional requirements.

a) General considerations

The process simulation approach for a given medical device or combination product is based on a detailed knowledge of the entire aseptic process definition including discrete process steps and interventions as well as