



SLOVENSKI STANDARD

SIST EN ISO 10993-1:2010

01-januar-2010

BUXca Yý U.
SIST EN ISO 10993-1:2009

6]c`cý_c`cj fYXbc hYbÝa YX]Wbg_ \ df]dca c _cj !%"XY . CWbU]b dfYg_i ýUbÝ
nbc hfU^dfcWgUcVj UXcj Ub'Ulj Y[Ub'UfIGC %\$- - !%&\$-\$- Ł

Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process (ISO 10993-1:2009)

Biologische Beurteilung von Medizinprodukten - Teil 1: Beurteilung und Prüfungen im Rahmen eines Risikomanagementsystems (ISO 10993-1:2009)

Évaluation biologique des dispositifs médicaux - Partie 1: Évaluation et essais au sein d'un processus de gestion du risque (ISO 10993-1:2009)

Ta slovenski standard je istoveten z: **EN ISO 10993-1:2009**

ICS:

11.100.20 Óä || z\ [Áç!^å} [c^} b
{ ^ååå•\ áóá|á [{ [\ [ç Biological evaluation of
medical devices

SIST EN ISO 10993-1:2010 en

iTeh STANDARD PREVIEW
(Standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standard/sist/d5fc62cb-6478-4d19-9900-4eb6115d6702/sist-en-iso-10993-1-2010>

EUROPEAN STANDARD

EN ISO 10993-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2009

ICS 11.100.20

Supersedes EN ISO 10993-1:2009, June

English Version

Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process (ISO 10993-1:2009)

Évaluation biologique des dispositifs médicaux - Partie 1:
 Évaluation et essais au sein d'un processus de gestion du
 risque (ISO 10993-1:2009)

Biologische Beurteilung von Medizinprodukten - Teil 1:
 Beurteilung und Prüfungen im Rahmen eines
 Risikomanagementsystems (ISO 10993-1:2009)

This European Standard was approved by CEN on 17 September 2009.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

iTeh STANDARDS
(Standard Review)
<https://standards.iteh.ai/catalog/standards/sist/en-iso-10993-1/>
 Full Standard
 4d19-9900-4eb6115d6702/sist/en-iso-10993-1



EUROPEAN COMMITTEE FOR STANDARDIZATION
 COMITÉ EUROPÉEN DE NORMALISATION
 EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

EN ISO 10993-1:2009 (E)

Contents

	Page
Foreword.....	3
Annex ZA (informative) Relationship between this International Standard and the Essential Requirements of EU Directive 93/42/EEC on Medical devices.....	4
Annex ZB (informative) Relationship between this International Standard and the Essential Requirements of EU Directive 90/385/EEC on Active Implantable Medical Devices	5

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standard/sist/d5fc62cb-6478-4d19-9900-4eb6115d6702/sist-en-iso-10993-1-2010>

Foreword

This document (EN ISO 10993-1:2009) has been prepared by Technical Committee ISO/TC 194 "Biological evaluation of medical devices" in collaboration with Technical Committee CEN/TC 206 "Biological evaluation of medical devices" the secretariat of which is held by NEN.

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 April 2010, and conflicting national standards shall be withdrawn at the latest by April 2010.

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 supersedes EN ISO 10993-1:2009, June.

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 Annex ZA and ZB, which are integral parts of this document.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 10993-1:2009 has been approved by CEN as a EN ISO 10993-1:2009 without any modification.

Annex ZA (informative)

Relationship between this International Standard and the Essential Requirements of EU Directive 93/42/EEC on Medical devices

This International Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 93/42/EEC on Medical devices.

Once this International Standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this International Standard given in Table ZA.1 confers, within the limits of the scope of this International Standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this International Standard and Directive 93/42/EEC on Medical devices

Clause(s)/subclause(s) of this International Standard	Essential Requirements (ERs) of Directive 93/42/EEC on Medical devices	Qualifying remarks/notes
4, 5, 6, 7	Annex I: 7.1, 7.2 and 7.5	

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this International Standard.

Teh STANDART JE VZET V UPORABO
 https://standards.iteh.hr/catalog/full-standard/
 4d19-9900-4eb6115e702/sist-en-iso-10993-1-2009
 Full standard:
 https://standards.iteh.hr/catalog/sistd5fc62cb-6478

Annex ZB (informative)

Relationship between this International Standard and the Essential Requirements of EU Directive 90/385/EEC on Active Implantable Medical Devices

This International Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 90/385/EEC on Active Implantable Medical Devices.

Once this International Standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this International Standard given in Table ZB.1 confers, within the limits of the scope of this International Standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

Table ZB.1 — Correspondence between this European Standard and Directive 90/385/EEC on Active Implantable Medical Devices

Clause(s)/subclause(s) of this International Standard	Essential Requirements (ERs) of Directive 90/385/EEC on Active Implantable Medical Devices	Qualifying remarks/notes
4, 5, 6, 7	Annex I Indents 1 and 2 of Clause 9 only	

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this International Standard.

iTeh STANDARDS REVISED
 https://standards.iuh.ai/catalogue/15d67021/standards-en-iso-10993-1:2010
 4d19-990022

iTeh STANDARD PREVIEW
(Standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standard/sist/d5fc62cb-6478-4d19-9900-4eb6115d6702/sist-en-iso-10993-1-2010>

INTERNATIONAL
STANDARD

ISO
10993-1

Fourth edition
2009-10-15

**Biological evaluation of medical
devices —**

**Part 1:
Evaluation and testing within a risk
management process**

Évaluation biologique des dispositifs médicaux —

*Partie 1: Évaluation et essais au sein d'un processus de gestion
du risque*

iTeh STANDARDS PREVIEW
(Standard preview)
Full standard
<https://standards.iteh.ai/catalog/standard/sist-en-iso-10993-1:2010>
4d19-9900-4eb6115d6702/sist-en-iso-10993-1:2010



Reference number
ISO 10993-1:2009(E)

© ISO 2009

ISO 10993-1:2009(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standard/sist/d5fc62cb-6478-4d19-9900-4eb6115d6702/sist-en-iso-10993-1-2010>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2009

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
Introduction.....	vi
1 Scope	1
2 Normative references.....	1
3 Terms and definitions	2
4 General principles applying to biological evaluation of medical devices.....	3
5 Categorization of medical devices	6
5.1 General	6
5.2 Categorization by nature of body contact	6
5.3 Categorization by duration of contact.....	7
6 Biological evaluation process.....	8
6.1 Material characterization	8
6.2 Biological evaluation tests	8
7 Interpretation of biological evaluation data and overall biological safety assessment	14
Annex A (informative) Biological evaluation tests	15
Annex B (informative) Guidance on the risk management process	16
Annex C (informative) Suggested procedure for literature review	19
Bibliography.....	21

Foreword	iv
Introduction.....	vi
1 Scope	1
2 Normative references.....	1
3 Terms and definitions	2
4 General principles applying to biological evaluation of medical devices.....	3
5 Categorization of medical devices	6
5.1 General	6
5.2 Categorization by nature of body contact	6
5.3 Categorization by duration of contact.....	7
6 Biological evaluation process.....	8
6.1 Material characterization	8
6.2 Biological evaluation tests	8
7 Interpretation of biological evaluation data and overall biological safety assessment	14
Annex A (informative) Biological evaluation tests	15
Annex B (informative) Guidance on the risk management process	16
Annex C (informative) Suggested procedure for literature review	19
Bibliography.....	21

iTEH STANDARD REVIEW
 https://standards.iteh.si/catalog/standards/iso/10993-1:2010
 4d19-9900-4eb6115d6702/sid-en-2020-07-07-078