



SLOVENSKI STANDARD SIST EN ISO 8537:2016

01-junij-2016

Sterilne injekcijske brizge za insulin za enkratno uporabo, z iglo ali brez nje (ISO 8537:2016)

Sterile single-use syringes, with or without needle, for insulin (ISO 8537:2016)

Sterile Insulin-Einmalspritzen mit oder ohne Kanüle (ISO 8537:2016)

Seringues à insuline, stériles, non réutilisables, avec ou sans aiguille (ISO 8537:2016)

ITeH STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: EN ISO 8537:2016

<https://standards.iteh.ai/catalog/standards/sist/79bdf41-65f4-4040-97c2-1c5c4cca6a14/sist-en-iso-8537-2016>

ICS:

11.040.25	Injekcijske brizge, igle in katetri	Syringes, needles and catheters
-----------	-------------------------------------	---------------------------------

SIST EN ISO 8537:2016

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 8537:2016

<https://standards.iteh.ai/catalog/standards/sist/79bfd1f1-65f4-4040-97c2-1c5c4cca6a14/sist-en-iso-8537-2016>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 8537

April 2016

ICS 11.040.20

Supersedes EN ISO 8537:2008

English Version

**Sterile single-use syringes, with or without needle, for
insulin (ISO 8537:2016)**

Seringues à insuline, stériles, non réutilisables, avec ou
sans aiguille (ISO 8537:2016)

Sterile Insulin-Einmalspritzen mit oder ohne Kanüle
(ISO 8537:2016)

This European Standard was approved by CEN on 27 February 2016.

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.

CEN members are the national standards bodies of 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 United Kingdom.

<https://standards.iteh.ai/catalog/standards/sist/79bdf41-65f4-4040-97c2-1c5c4cca6a14/sist-en-iso-8537-2016>



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword	3
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 93/42/EEC amended by Directive 2007/47/EEC	5

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 8537:2016](https://standards.iteh.ai/catalog/standards/sist/79b1d1f1-65f4-4040-97c2-1c5c4cca6a14/sist-en-iso-8537-2016)
<https://standards.iteh.ai/catalog/standards/sist/79b1d1f1-65f4-4040-97c2-1c5c4cca6a14/sist-en-iso-8537-2016>

European foreword

This document (EN ISO 8537:2016) has been prepared by Technical Committee ISO/TC 84 "Devices for administration of medicinal products and catheters" in collaboration with Technical Committee CEN/TC 205 "Non-active medical devices" the secretariat of which is held by DIN.

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 October 2016, and conflicting national standards shall be withdrawn at the latest by October 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 supersedes EN ISO 8537:2008.

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 Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part 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, 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.

The following referenced documents are indispensable for the application of this document.

For undated references, the latest edition of the referenced document (including any amendments) applies. For dated references, only the edition cited applies. However, for any use of this standard 'within the meaning of Annex ZA', 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 shall 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.

EN ISO 8537:2016 (E)

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 or IEC	
	ISO 594-1	EN ISO 594-1:1986
ISO 7864	EN ISO 7864:1995*	ISO 7864:1993*
ISO 9626	EN ISO 9626:1995*	ISO 9626:1991*
ISO 14971	EN ISO 14971:2012	ISO 14971
ISO 62366-1	EN ISO 62366-1:2015	IEC 62366-1:2015
ISO 15223-1	EN ISO 15223-1:2012	ISO 15223-1:2012
ISO 10993-1	EN ISO 10993-1:2009	ISO 10993-1:2003
ISO 80369-7	EN ISO 80369-7:2016**	ISO 80369-7:2016**

* New versions expected end of 2015.

** Expected 2016.

Endorsement notice

The text of ISO 8537:2016 has been approved by CEN as EN ISO 8537:2016 without any modification.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 8537:2016

<https://standards.iteh.ai/catalog/standards/sist/79b1d1f1-65f4-4040-97c2-1c5c4cca6a14/sist-en-iso-8537-2016>

Annex ZA
(informative)
Relationship between this European Standard and the Essential Requirements of EU Directive 93/42/EEC amended by Directive 2007/47/EEC

This European 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 the Essential Requirements of Directive 93/42/EEC.

Once this 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 normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA Regulations.

NOTE 1 Where a reference from a clause of this standard to the risk management process is made, the risk management process needs to be in compliance with Directive 93/42/EEC as amended by 2007/47/EC. This means that risks have to be reduced 'as far as possible', 'to a minimum', 'to the lowest possible level', 'minimized' or 'removed', according to the wording of the corresponding essential requirement.

NOTE 2 The manufacturer's policy for determining acceptable risk must be in compliance with essential requirements 1, 2, 5, 6, 7, 8, 9, 11 and 12 of the Directive.

NOTE 3 This Annex ZA is based on normative references according to the table of references in the European foreword, replacing the references in the core text.

NOTE 4 When an Essential Requirement does not appear in Table ZA.1, it means that it is not addressed by this European Standard.

Table ZA.1 — Correspondence between this European Standard and Directive 93/42/EEC

Clause(s)/subclause(s) of this European Standard	Essential Requirements (ERs) of Directive 93/42/EEC	Qualifying remarks/notes
5.1 m	7.1	
6.1.2 c, 6.1.3 c, 6.2 b	7.2	
5.2, 5.4	7.3	
5.11.2, 5.11.3	7.5	
6.1	7.6	
6.1.2, 6.1.3, 7.2.2, 7.3, 7.4	8.3	
5.1 n	8.4	
5.1, 5.4, 5.6, 5.7, 7.3 g, 7.4 h, 7.5 h, 7.6 f	9.2	
5.1 e, 5.1 g	10.1	
5.1 e, 5.2	10.2	
5.1 f	10.3	

EN ISO 8537:2016 (E)

Clause 7	13.1	
Clause 7	13.2	
7.2.1, 7.2.2, 7.3, 7.4, 7.5, 7.6, 7.7	13.3	
7.2.1 b, 7.3 e, 7.4 g	13.4	
7.4, 7.5, 7.6	13.6	The information is provided on the packaging and no additional instruction for use is required

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

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 8537:2016

<https://standards.iteh.ai/catalog/standards/sist/79bdf41-65f4-4040-97c2-1c5c4cca6a14/sist-en-iso-8537-2016>

INTERNATIONAL
STANDARD

ISO
8537

Third edition
2016-03-15

**Sterile single-use syringes, with or
without needle, for insulin**

Seringues à insuline, stériles, non réutilisables, avec ou sans aiguille

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 8537:2016](https://standards.iteh.ai/catalog/standards/sist/79b1d141-65f4-4040-97c2-1c5c4cca6a14/sist-en-iso-8537-2016)

<https://standards.iteh.ai/catalog/standards/sist/79b1d141-65f4-4040-97c2-1c5c4cca6a14/sist-en-iso-8537-2016>



Reference number
ISO 8537:2016(E)

© ISO 2016

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 8537:2016

<https://standards.iteh.ai/catalog/standards/sist/79bdf41-65f4-4040-97c2-1c5c4cca6a14/sist-en-iso-8537-2016>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Types of syringes	5
5 Requirements	5
5.1 General requirements.....	5
5.2 Material selection.....	6
5.3 Colour coding.....	6
5.4 Extraneous matter.....	7
5.4.1 General.....	7
5.4.2 Limits for acidity or alkalinity.....	7
5.4.3 Limits for extractable metals.....	7
5.5 Lubrication.....	7
5.5.1 Lubrication of syringes.....	7
5.5.2 Lubrication of needle tube.....	8
5.6 Dimensions.....	8
5.6.1 Barrel and plunger stopper.....	8
5.6.2 Finger grips.....	8
5.7 Plunger/plunger stopper.....	8
5.7.1 General.....	8
5.7.2 Fit of plunger stopper in barrel.....	8
5.8 Nozzle.....	8
5.8.1 Conical fitting.....	8
5.8.2 Position of nozzle on end of barrel.....	8
5.9 Needle tubing and needles.....	9
5.9.1 Needles for syringe types 3 and 4.....	9
5.9.2 Needle tubing for syringe types 5, 6, 7 and 8.....	9
5.9.3 Bond between hub and needle tube.....	9
5.10 Standard test environmental conditions.....	9
5.11 Performance of assembled syringe.....	9
5.11.1 Dead space.....	9
5.11.2 Freedom from leakage at needle.....	10
5.11.3 Freedom from leakage past plunger stopper.....	10
6 Packaging	10
6.1 Unit packaging and self-contained syringe units.....	10
6.1.1 General.....	10
6.1.2 Unit packaging providing sterile barrier syringes (types 1, 3, 5 and 7).....	10
6.1.3 Self-contained syringes with sterile interiors (types 2, 4, 6 and 8).....	10
6.2 Multiple-unit packaging (for syringe types 2, 4, 6 and 8).....	11
6.3 User packaging.....	11
7 Information supplied by the manufacturer	11
7.1 General.....	11
7.2 Syringes.....	11
7.2.1 General.....	11
7.2.2 Additional marking for self-contained syringes (syringe types 2, 4, 6 and 8).....	12
7.3 Unit packaging (for syringe types 1, 3, 5 and 7).....	12
7.4 Multiple unit packs (syringe types 2, 4, 6 and 8).....	12
7.5 User packaging.....	13
7.6 Storage container.....	14
7.7 Transport wrapping.....	14

ISO 8537:2016(E)

Annex A (normative) Fluid for determination of acidity/alkalinity and extractable metals	15
Annex B (normative) Test method for air leakage past syringe piston during aspiration and for separation of rubber stopper and plunger	16
Annex C (normative) Test method for determination of forces required to operate piston	18
Annex D (normative) Test method for determination of dead space	20
Annex E (normative) Test method for liquid leakage at syringe piston and syringe nozzle/hub or needle/barrel unions during compression	21
Annex F (normative) Test method for air leakage past nozzle/hub or needle/barrel unions during aspiration	23
Annex G (normative) Preparation of extract for test for pyrogenicity and toxicity	24
Annex H (normative) Syringe sizes and graduated scales	25
Bibliography	27

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 8537:2016

<https://standards.iteh.ai/catalog/standards/sist/79b1d141-65f4-4040-97c2-1c5c4cca6a14/sist-en-iso-8537-2016>

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information.

The committee responsible for this document is ISO/TC 84, *Devices for administration of medicinal products and catheters*.

This third edition cancels and replaces the second edition (ISO 8537:2007), which has been technically revised to include the following changes:

- a) revised the introduction;
- b) revised the scope to include various concentrations of insulin, specified plastic materials and excluded, e.g. single-use syringes made of glass;
- c) added some normative references;
- d) added new definitions;
- e) added new colour codes for higher concentration of insulin;
- f) clarified the drawing to illustrate the component of the syringe;
- g) included general requirements;
- h) revised test methods for syringes;
- i) revised the labelling requirement;
- j) moved the syringe sizes and graduated scales in [Annex H](#);
- k) deleted Annex I.