INTERNATIONAL STANDARD

ISO 18113-1

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In vitro diagnostic medical devices — Information supplied by the manufacturer (labelling) —

Part 1: Terms, definitions and general requirements

Dispositifs médicaux de diagnostic in vitro — Informations fournies par le fabricant (étiquetage) —

Partie 1: Termes, définitions et exigences générales

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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 18113-1 was prepared by Technical Committee ISO/TC 212, *Clinical laboratory testing and* in vitro *diagnostic test systems.*

ISO 18113 consists of the following parts, under the general title In vitro *diagnostic medical devices — Information supplied by the manufacturer (labelling):*

— *Part 1: Terms, definitions and general requirements*

— *Part 2:* In vitro *diagnostic reagents for professional use*

— *Part 3*: In vitro *diagnostic instruments for professional use*

— *Part 4:* In vitro *diagnostic reagents for self-testing*

— *Part 5:* In vitro *diagnostic instruments for self-testing*

Introduction

Manufacturers of *in vitro* diagnostic (IVD) medical devices supply users with information to enable the safe use and expected performance of their devices. Traditionally, this information has been provided in the form of labels, package inserts and user manuals, where the type and level of detail would depend on the intended uses and country-specific regulations.

The Global Harmonization Task Force (GHTF) encourages convergence of the evolution of regulatory systems for medical devices at the global level. The goal is to facilitate trade while preserving the right of participating members to address the protection of public health by regulatory means. Consistent worldwide labelling requirements offer significant benefits to manufacturers, users, patients and regulatory authorities. Eliminating differences among regulatory jurisdictions could allow patients earlier access to new technologies and treatments by decreasing the time necessary to gain regulatory compliance. See Reference [36]. This part of ISO 18113 provides a basis for harmonization of labelling requirements for IVD medical devices.

The GHTF has established guiding principles that apply to the labelling of medical devices. See Reference [36]. These principles have been incorporated into the ISO 18113 series. Of particular note, GHTF states that country-specific requirements for the content, wording and format of labels and instructions for use should be kept to a minimum, and eliminated over time as the opportunities arise.

This part of ISO 18113 contains a comprehensive list of terms and definitions necessary to develop the labelling for IVD medical devices. Internationally agreed-upon definitions of important concepts promote greater consistency in IVD medical device labelling. While the goal is to standardize the terminology used in IVD medical device labelling to the extent possible, it is also recognised that current national and regional usage by medical laboratories, healthcare providers, patients and regulatory authorities must be respected.

An obstacle to the timely and affordable availability of IVD medical devices in some countries is the requirement for information to appear in multiple languages. Wherever practical, GHTF encourages the use of standardized, internationally recognised symbols as long as safe use of the device is not compromised by diminished understanding on the part of the user. This part of ISO 18113 provides support for the use of symbols consistent with the GHTF objectives.

GHTF also encourages manufacturers to employ the most appropriate methods of delivering information. Until recently, most information had been supplied as printed materials accompanying the IVD medical device. Modern technologies enable instructions for use and technical information to be provided using a more efficient means of delivery. Information can be digitally encoded on magnetic or optical media, displayed on a screen, incorporated in the device, or even transmitted over the internet at the time of use. These advances offer users the possibility of more timely availability of critical information, such as performance changes, and offer manufacturers more effective means of disseminating the information.

The ISO 18113 series specifies requirements for information supplied by the manufacturer of IVD medical devices. It consists of five parts, allowing it to address the specific needs of professional users and self-testing users in the most appropriate manner. Furthermore, since manufacturers provide different types of information for IVD reagents and instruments, their requirements are addressed in separate parts of the ISO 18113 series.

This part of ISO 18113 is not intended to be used alone. It contains terms, definitions and general principles that apply to all parts of ISO 18113. In addition, guidelines for the terms and definitions that describe the performance characteristics of IVD medical devices are given in Annex A. This information is not repeated in the subsequent parts, so this document is indispensable to the application of ISO 18113-2, ISO 18113-3, ISO 18113-4 and ISO 18113-5.

ISO 18113-2 specifies the requirements for labels and instructions for use supplied with IVD reagents, calibrators and control materials for professional use. ISO 18113-3 specifies the requirements for labels and instructions for use supplied with IVD instruments for professional use. ISO 18113-4 specifies the

requirements for labels and instructions for use supplied with IVD reagents, calibrators and control materials for self-testing. ISO 18113-5 specifies the requirements for labels and instructions for use supplied with IVD instruments for self-testing.

Parts 1, 2 and 3 of ISO 18113 are the International Standards necessary for IVD medical devices intended for medical laboratories and other professional uses; Parts 1, 4 and 5 of ISO 18113 are the International Standards necessary for IVD medical devices intended for self-testing. However, recognising that manufacturers often provide systems comprising an instrument with dedicated reagents, these International Standards allow the flexibility to provide the necessary information in the most appropriate format for the intended users, for example, a single operator's manual for an integrated IVD medical device system.

In vitro diagnostic medical devices — Information supplied by the manufacturer (labelling) —

Part 1: Terms, definitions and general requirements

1 Scope

This part of ISO 18113 defines concepts, establishes general principles and specifies essential requirements for information supplied by the manufacturer of IVD medical devices.

This part of ISO 18113 does not address language requirements, since that is the domain of national laws and regulations.

This part of ISO 18113 does not apply to

a) IVD devices for performance evaluation (e.g., for investigational use only),

b) instrument marking,

c) material safety data sheets.

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 1000, *SI units and recommendations for the use of their multiples and of certain other units*

ISO 13485, *Medical devices — Quality management systems — Requirements for regulatory purposes*

ISO 14971, *Medical devices — Application of risk management to medical devices*

ISO 15223-1, *Medical devices — Symbols to be used with medical device labels, labelling and information to be supplied — Part 1: General requirements*

IEC 62366, *Medical devices — Application of usability engineering to medical devices*

EN 980, *Symbols for use in the labelling of medical devices*

3 Terms and definitions

For the purposes of this document and ISO 18113, Parts 2-5, the following terms and definitions apply. However, definitions provided in national and regional regulations shall take precedence. Furthermore, while the terms and definitions in International Standards are preferred, the terms and definitions used in the information supplied by an IVD manufacturer shall be subject to the requirements of 4.6.2.

Where synonyms are given, either term may be used but the first term is preferred.

Some definitions had to be modified for relevance to IVD labelling or to conform to ISO terminology rules. In these cases, a note indicates that the definition has been adapted and gives the source.

In some cases, additional notes or modifications to existing notes were needed to clarify the application to IVD medical devices, and notes that did not apply to IVD medical devices were omitted. Such cases are not considered modifications of the definition and are not identified as “adapted”.

Common English dictionary definitions apply to non-defined concepts, such as apparatus, device, constituent, equipment, evaluation, instrument, magnitude, material, part, phenomenon, property, reaction, signal, substance and system.

See Annex A for additional terms and definitions that may be used by IVD manufacturers to describe performance claims.

3.1
accessory
article intended explicitly by its manufacturer to be used together with an IVD medical device

— to enable the IVD medical device to achieve its intended purpose or

— to augment or extend the capabilities of the IVD medical device in the fulfilment of its intended purpose

NOTE Adapted from Reference [37], 5.0, Note 3.

3.2
advisory notice
communication issued by an organization, subsequent to delivery of a medical device, to provide supplementary information and/or to advise what action should be taken in

— the use of a medical device,

— the modification of a medical device,

— the return of a medical device to its manufacturer,

— the destruction of a medical device

NOTE Issue of an advisory notice might be required to comply with national or regional regulations.

[ISO 13485:2003, definition 3.3]

3.3
analyte
constituent of a sample with a measurable property

EXAMPLES In “mass of protein in 24-hour urine”, “protein” is the analyte and “mass” is the property. In “concentration of glucose in plasma”, “glucose” is the analyte and “concentration” is the property. In both cases, the full phrase designates the **measurand** (3.39).

NOTE Adapted from ISO 17511:2003, definition 3.2.

3.4
authorized representative
any natural or legal person established within a country or jurisdiction who has received a mandate from the manufacturer to act on his behalf for specified tasks with regard to the latter's obligations under that country's or jurisdiction's legislation

NOTE 1 In the European Union, Directive 98/79/EC [38] requires the manufacturer to designate an "EC authorized representative", established in the European Community if the manufacturer is not located in the European Community.

NOTE 2 Adapted from Reference [39].

3.5
batch
lot
defined amount of material that is uniform in its properties and has been produced in one process or series of processes

NOTE 1 The material can be either starting material, intermediate material or finished product.

NOTE 2 Adapted from EN 375:2001, definition 3.2.

3.6
batch code
lot number
distinctive set of numbers and/or letters that specifically identifies a batch and permits its manufacturing, packaging, labelling and distribution history to be traced

NOTE Adapted from EN 375:2001, definition 3.3, Reference [40], 820.3 (c), and Reference [41], Section I.

3.7
biological reference interval
reference interval
specified interval of the distribution of values taken from a biological reference population

EXAMPLE The 0,95 biological reference interval for sodium ion concentration values in serum from a population of healthy male and female adults is 135 mmol/l to 145 mmol/l.

NOTE 1 A reference interval is commonly defined as the central 95 % interval. Another size or an asymmetrical location of the reference interval could be more appropriate in particular cases.

NOTE 2 A reference interval can depend upon the type of primary samples and the examination procedure used.

NOTE 3 In some cases, only one biological reference limit is important, usually an upper limit, "x", so that the corresponding biological reference interval would be less than or equal to "x".

NOTE 4 Terms such as "normal range", "normal values", and "clinical range" are ambiguous and therefore discouraged.

NOTE 5 Adapted from References [42], [43], [44] and [45].

3.8
biological reference population
reference population
group of individuals in a well-defined state of health or disease

NOTE 1 When biological reference intervals are provided by a manufacturer in the instructions for use, laboratories using the IVD medical device are responsible for verifying that the biological reference populations represent the populations serviced by the laboratories.

NOTE 2 A biological reference population can be a defined homogenous group of apparently healthy individuals or individuals with a specific medical condition. The concept allows for relating the reference interval to age, gender and ethnicity of the reference population, as appropriate.

NOTE 3 Adapted from References [42], [43], [44] and [45].

3.9
calibration
operation that, under specified conditions in a first step, establishes a relationship between the quantity values with measurement uncertainties provided by measurement standards and corresponding measurement indications with associated measurement uncertainties and, in a second step, uses this information to establish a relationship for obtaining a measurement result from an indication

NOTE 1 Calibration permits either the assignment of values of the measurands to the measurement indications provided by the measuring instrument, or the determination of a correction with respect to the values provided by the measuring instrument.

NOTE 2 Calibration is sometimes confused with adjustment of a measuring system, often mistakenly called self-calibration, or with **calibration verification** (3.10).

[ISO/IEC Guide 99:2007, definition 2.39]

3.10
calibration verification
verification of calibration
confirmation that stated trueness claims for an IVD measuring system are achieved

NOTE 1 Calibration verification requires reference materials with assigned values at concentrations appropriate for the intended use.

NOTE 2 Calibration verification is sometimes confused with **calibration** (3.9), linearity verification or routine control procedures.

3.11
calibrator
measurement standard used in the calibration of an IVD instrument or system

NOTE Adapted from ISO/IEC Guide 99:2007, 5.12.

3.12
component
part of a finished, packaged and labelled IVD medical device

EXAMPLES Raw material, substance, piece, part, software, firmware, labelling or assembly.

NOTE 1 Typical kit components include antibody solutions, buffer solutions, calibrators and/or control materials.

NOTE 2 Adapted from Reference [40], 820.3(c).

3.13
control material
substance, material or article intended by its manufacturer to be used to verify the performance characteristics of an IVD medical device

[EN 375:2001, definition 3.5]

3.14
control procedure
set of operations at the point of use, described specifically, intended to monitor the performance characteristics of an IVD medical device and fulfil requirements for quality

NOTE 1 Control procedures can be intended to monitor all or part of the IVD examination process, from the collection of the sample to reporting the result of the examination.

NOTE 2 Adapted from ISO 15198:2004, definition 3.5.

3.15
distributor
person or legal entity that furthers the marketing and/or selling of a device from the original place of manufacture to the ultimate user without modifying the device, its packaging or its labelling

NOTE Adapted from Reference [46], 803.3 (g).

3.16
examination
set of operations having the object of determining the value or characteristics of a property

NOTE 1 In some disciplines (e.g., microbiology) an examination is the total activity of a number of tests, observations or measurements.

NOTE 2 Laboratory examinations that determine the value of a property are called quantitative examinations; those that determine the characteristics of a property are called qualitative examinations.

NOTE 3 In clinical chemistry, laboratory examinations have been called assays or tests.

[ISO 15189:2007, definition 3.4]

3.17
expiry date
expiration date
upper limit of the time interval during which the performance characteristics of a material stored under specified conditions can be assured

NOTE 1 Expiry dates are assigned to IVD reagents, calibrators, control materials and other components by the manufacturer, based on experimentally determined stability properties (see 3.68).

NOTE 2 Guidelines for determining the stability of IVD medical devices are found in EN 13640.

NOTE 3 Adapted from EN 375:2001, definition 3.6.

3.18
graphical symbol
visually perceptible figure used to transmit information independently of language

[ISO/IEC 80416-1:2001, definition 3.1]

3.19
harm
physical injury or damage to the health of people, or damage to property or the environment

[ISO/IEC Guide 51:1999, definition 3.3]

3.20
hazard
potential source of **harm**

[ISO/IEC Guide 51:1999, definition 3.5]

3.21
hazardous situation
circumstance in which people, property or the environment are exposed to one or more **hazards**

NOTE Incorrect IVD examination results can contribute to a hazardous situation for a patient. See ISO 14971:2007, Annex H.

[ISO/IEC Guide 51:1999, definition 3.6]

3.22
hazardous waste
waste that is potentially harmful to human beings, property or the environment

EXAMPLES Used reagent strips contaminated with human blood; reagent solution containing sodium azide; decommissioned instruments containing heavy metals.

NOTE 1 Includes waste that is flammable, combustible, ignitable, corrosive, toxic, reactive, injurious or infectious.

NOTE 2 Adapted from ISO 15190:2003, definition 3.13.

3.23
healthcare provider
individual authorized to deliver health services to a patient

EXAMPLES Physician, nurse, ambulance attendant, dentist, diabetes educator, laboratory technician, medical assistant, medical specialist, respiratory care practitioner.

NOTE Adapted from Reference [41].

3.24
immediate container
primary container
packaging that protects the contents from contamination and other effects of the external environment

EXAMPLES Sealed vial, ampoule or bottle, foil pouch, sealed plastic bag.

NOTE Does not include package liners.

[EN 375:2001, definition 3.7]

3.25
importer
person or legal entity who brings goods, or causes goods to be brought into a country from another country

NOTE 1 Importers are not permitted to repackage the goods or change their container, packaging or labelling in some jurisdictions, including the EU and USA.

NOTE 2 Adapted from Reference [46], 803.3 (m).

3.26
***in vitro* diagnostic instrument**
IVD instrument
equipment or apparatus intended by a manufacturer to be used as an IVD medical device

NOTE Adapted from EN 591:2001, definition 3.5.

3.27
***in vitro* diagnostic medical device**
IVD medical device
device, whether used alone or in combination, intended by the manufacturer for the *in vitro* examination of specimens derived from the human body solely or principally to provide information for diagnostic, monitoring or compatibility purposes and including reagents, calibrators, control materials, specimen receptacles, software, and related instruments or apparatus or other articles

NOTE This is the definition adopted by the GHTF in [47].

3.28
***in vitro* diagnostic reagent**
IVD reagent
chemical, biological or immunological components, solutions or preparations intended by the manufacturer to be used as an IVD medical device

NOTE Adapted from EN 375:2001, definition 3.9.

3.29
information supplied by the manufacturer
labelling
written, printed or graphic matter

— affixed to an IVD medical device or any of its containers or wrappers or

— provided for use with an IVD medical device,

related to identification and use, and giving a technical description, of the IVD medical device, but excluding shipping documents

EXAMPLES Labels, instructions for use.

NOTE 1 In IEC standards, documents provided with a medical device and containing important information for the responsible organization or operator, particularly regarding safety, are called "accompanying documents".

NOTE 2 Catalogues and material safety data sheets are not considered labelling of IVD medical devices.

NOTE 3 Adapted from ISO 13485:2003, definition 3.6.

3.30
instructions for use

information supplied by the manufacturer to enable the safe and proper use of an IVD medical device

NOTE 1 Includes the directions supplied by the manufacturer for the use, maintenance, troubleshooting and disposal of an IVD medical device, as well as warnings and precautions.

NOTE 2 Adapted from EN 376:2002, definition 3.9 and EN 591:2001, definition 3.3.

3.31
intended use
intended purpose
objective intent of an IVD manufacturer regarding the use of a product, process or service as reflected in the specifications, instructions and information supplied by the IVD manufacturer

NOTE 1 Intended use statements for IVD labelling can include two components: a description of the functionality of the IVD medical device (e.g., an immunochemical measurement procedure for the detection of analyte "x" in serum or plasma), and a statement of the intended medical use of the examination results.

NOTE 2 This is the definition adopted by the GHTF in Reference [36].

3.32
kit
set of components that are packaged together and intended to be used to perform a specific IVD examination

NOTE 1 Kit components can include reagents (such as antibodies, enzymes, buffer and diluents), calibrators, controls and other articles and materials.

NOTE 2 Adapted from EN 375:2001, definition 3.10.

3.33
label
printed, written or graphic information placed on a medical device or its container

NOTE 1 A label permanently affixed to an IVD instrument is considered **marking** (3.37).

NOTE 2 Adapted from EN 375:2001, definition 3.12.

3.34
lay person
individual without formal training in a relevant medical field or discipline

EXAMPLE Person who performs self-testing without having a medical education.

NOTE Adapted from EN 376:2002, definintion 3.13.

3.35
limitation of the procedure
specific situation in which an IVD examination procedure might not perform as intended

NOTE 1 Factors that affect the performance of an IVD examination procedure can be physiological as well as analytical.

NOTE 2 Adapted from Reference [48].

3.36
manufacturer

natural or legal person responsible for the design, manufacture, fabrication, assembly, packaging or labelling of a medical device, for assembling a system, or adapting a medical device before it is placed on the market and/or put into service, regardless of whether these operations are carried out by that person or on their behalf by a third party

NOTE 1 Provisions of national or regional regulations could apply to the definition of manufacturer.

NOTE 2 Manufacturer includes those who perform the functions of contract sterilization, installation, relabelling, remanufacturing, repacking or specification development, and initial distributors of foreign entities performing these functions.

NOTE 3 A harmonized definition of "manufacturer" is being developed by the GHTF.

[ISO 14971:2007, definition 2.8]

3.37
marking
inscription, in writing or as a graphical symbol, permanently affixed to a medical device

NOTE 1 Marking is a label permanently affixed to an **IVD instrument** (3.26).

NOTE 2 Adapted from IEC 61010-2-101:2002, definition 3.106.

3.38
material safety data sheet
MSDS
document prepared in accordance with regulatory requirements for occupational safety to convey information about a hazardous chemical substance

NOTE 1 Typically describes physical properties, health hazards, toxicity, fire and reactivity properties, and provides storage and handling precautions.

NOTE 2 Material safety data sheets are not considered part of IVD medical device labelling.

NOTE 3 Adapted from Reference [49], 1910.1200 (c) and 1910.1200 (g).

3.39
measurand
quantity intended to be measured

NOTE 1 The specification of a measurand in laboratory medicine requires knowledge of the kind of quantity (e.g., mass concentration), a description of the matrix carrying the quantity (e.g., blood plasma), and the chemical entities involved (e.g., the analyte).

NOTE 2 The measurand can be a biological activity.

NOTE 3 See 3.3 for other examples of IVD measurands.

NOTE 4 In chemistry, “analyte”, or the name of a substance or compound, are terms sometimes used for “measurand”. This usage is erroneous because these terms do not refer to quantities.

[ISO/IEC Guide 99:2007, definition 2.3]

3.40
measurement
process of experimentally obtaining one or more quantity values that can reasonably be attributed to a quantity

NOTE 1 In chemistry, “analyte”, or the name of a substance or compound, are terms sometimes used for “measurand”. This usage is erroneous because these terms do not refer to quantities.

NOTE 2 Measurement implies comparison of quantities or counting of entities.

NOTE 3 Measurement presupposes description of the quantity commensurate with the intended use of the measurement result, of a measurement procedure, and of a calibrated measuring system operating according to the specified measurement.

NOTE 4 The operations can be performed automatically.

[ISO/IEC Guide 99:2007, definition 2.1]

3.41
measurement method
generic description of a logical organization of operations used in a **measurement**

NOTE 1 A measurement method is used in a specific **measurement procedure** (3.44).

NOTE 2 Measurement methods can be qualified in various ways such as direct measurement method and indirect measurement method. See IEC 60050-300 for further information.

[ISO/IEC Guide 99:2007, definition 2.5].

3.42
measurement model
mathematical relation among all quantities known to be involved in a **measurement**

EXAMPLE Four-parameter logistic function for fitting sigmoidal measurement indications to calibrator concentrations in immunochemical measurement procedures.

NOTE 1 A general form of the measurement model is the equation $h(Y, X_1, K, X_n) = 0$, where Y, the output quantity in the measurement model, is the **measurand** that is to be inferred from information about input quantities in the measurement model X_1, K, X_n.

NOTE 2 In more complex cases where there are two or more output quantities, the measurement model consists of more than one equation.

NOTE 3 In clinical chemistry, measurement models have also been called calibration models.

[ISO/IEC Guide 99:2007, 2.48]