

Manual on borderline and classification for medical devices under Regulation (EU) 2017/745 on medical devices and Regulation (EU) 2017/746 on *in vitro* diagnostic medical devices

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The views expressed in this document represent the agreements reached by the competent authorities of the Member State members of the Borderline and Classification Working Group, a subgroup of the Medical Device Coordination Group. The views are not legally binding as only the Court of Justice of the European Union can give an authoritative interpretation of Union law.

This Manual only serves as one of the support tools for case-by-case application of the Union legislation by the Member States in their respective jurisdictions. It remains for the national competent authorities and the national courts to reach decisions at national level.

The Manual is not a European Commission document and it cannot be regarded as reflecting the official position of the European Commission.

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Introduction and scope

Determining whether a given product falls under the definition of a medical device and the application of the classification rules fall within the competence of the authorities of the Member States where the product is on the market. However, when different interpretations of EU legislation occur, public health may be put at risk and the internal market distorted. As both are matters of concern to the Member States and the Commission, it is essential to facilitate a dialogue among regulators. Appropriate participation of various stakeholders should also be ensured.

This document, hereafter called the Manual, records the agreements reached by the Member State members of the Borderline and Classification Working Group ([BCWG](#))¹ following the exchanges under the Helsinki Procedure under Regulation (EU) 2017/745 on medical devices (the [MDR](#)) and Regulation (EU) 2017/746 on *in vitro* diagnostic medical devices (the [IVDR](#)). The purpose and operation of the Helsinki procedure is described in the dedicated document [here](#). The BCWG is chaired by the European Commission and consists of representatives of competent authorities from all Member States with a number of stakeholder associations as observers.

The aspects concerning the borderline between medical devices and other types of products, also known as qualification of a product, are generally governed by Article 4 *Regulatory status of products* of the MDR and the corresponding Article 3 of the IVDR. Borderline cases are those for which it is not clear from the outset whether a given product is a medical device, or an *in vitro* diagnostic medical device (IVD), or not. Various paragraphs under Article 1 *Subject matter and scope* of both Regulations are also relevant. They exclude certain types of products from the scope of the Regulations. Where a given product does not fall within the definition of medical device or is excluded from their scope, other EU or national legislation may be applicable. This Manual will however not provide indications to that effect.

The Manual should be read in conjunction with other documents providing guidance on borderline, such as [MDCG 2022-5 Guidance on borderline between medical devices and medicinal products under Regulation \(EU\) 2017/745 on medical devices](#) and [MDCG 2019-11 Qualification and classification of software - Regulation \(EU\) 2017/745 and Regulation \(EU\) 2017/746](#).

Once a product is qualified as a medical device, a certain risk class will be assigned to it, namely I, IIa, IIb, III. For a product qualified as an IVD, the risk classes are A, B, C and D. The aspects concerning classification of medical devices are governed by MDR Article 51 *Classification of devices* and Annex VIII *Classification rules*. For IVDR the corresponding references are Article 47 and Annex VIII. In the context of this Manual, classification cases are those for which the competent authorities of the Member States identify a difficulty in the uniform application of the classification rules.

¹ The BCWG is a sub-group of the Medical Device Coordination Group set up according to Article 103 of Regulation (EU) 2017/745 and Article 98 of Regulation (EU) 2017/746

The Manual should be read in conjunction with other documents providing guidance on classification, such as [MDCG 2021-24 Guidance on classification of medical devices](#) and [MDCG 2020-16 Guidance on classification rules for in vitro diagnostic medical devices under Regulation \(EU\) 2017/746](#).

Other relevant MDCG guidance documents may be published [here](#).

This Manual does not relieve national competent authorities from their duty to issue decisions in the areas of qualification and classification for individual products taking into account all its characteristics on a case-by-case basis, while acting under the supervision of the courts.

1. Regulation (EU) 2017/745 on medical devices

1.1. Qualification of medical devices

The respective sections will be populated when cases are finalised under the Helsinki Procedure.

1.1.1. Borderline between medical devices and IVDs

This section covers the borderline between products that may fall under the MDR or under the IVDR, where the conclusion is that the product should be qualified as a medical device.

1.1.2. Borderline between medical devices and medicinal products, including advanced therapy medicinal products (ATMPs)

This section covers the borderline between products that may fall under the MDR, or possibly under Directive 2001/83/EC on the Community code relating to medicinal products for human use, or under Regulation (EC) No 726/2004 laying down Community procedures for the authorisation and supervision of medicinal products for human and veterinary use and establishing a European Medicines Agency, or under Regulation (EC) No 1394/2007 on advanced therapy medicinal products.

1.1.2.1 Nasal spray with antibodies for COVID-19

Background:

The spray contains antibodies that inactivate the SARS-CoV-2 virus and, as a result, the virus is no longer able to reproduce and enter mucosal cells. The antibodies, obtained from the colostrum of infected cows, are sprayed into the human nose where they can attach to the viruses and inactivate them.

Outcome:

According to the information provided by the manufacturer, the principal intended action of the spray is achieved through antibodies binding to the virus. As a result, the virus is no longer able to reproduce and enter mucosal cells.

Considering the product's principal mode of action and that a medical device cannot achieve its principal intended action by pharmacological, immunological or metabolic means, the above mentioned spray should not be qualified as a medical device.

1.1.2.2 Graphite crucible

Background:

The product is a graphite crucible used in conjunction with the radionuclide Technetium-99m (Tc-99m) for imaging the airways (lung ventilation scintigraphy). The graphite crucible is made of pure carbon and is intended for the preparation of the aerosol.

The resulting aerosol is an ultra-fine dispersion of nanosized pure carbon particles encapsulating Tc-99m (average 30-60 nm). It is produced by heating Tc-99m in the carbon crucible in an oven for a few seconds at 2,750 °C in the presence of argon gas.

The aerosol is then inhaled by the patient via a mouthpiece, and penetrates to the sub-segmental areas of the lung.

Once inhaled by a patient suspected of having a pulmonary embolism (PE) or other pulmonary obstructive pathology, a gamma camera is used to generate the image.

The question is about the qualification of the graphite crucible.

Outcome:

According to Article 1 (6) of Directive 2001/83/EC, radiopharmaceutical is: “Any medicinal product which, when ready for use, contains one or more radionuclides (radioactive isotopes) included for a medicinal purpose.”

According to Article 1 (8), a kit is: “Any preparation to be reconstituted or combined with radionuclides in the final radiopharmaceutical, usually prior to its administration.”

The graphite crucible comes under the latter definition. The graphite crucible:

- is made of pure carbon and is intended for the preparation of an aerosol;
- is an inherent component of the aerosol (carbon particles carrying the radionuclide Tc-99m).

Consequently, graphite crucible does not fall under the definition of medical device or accessory and should not be qualified as such.

1.1.2.3 Product for professional removal of dental biofilm

Background:

Qualification of a product for professional removal of dental biofilm/plaque, consisting of a syringe prefilled with TiO₂ + polymer (inert) and a vial of hydrogen peroxide (H₂O₂): The H₂O₂ shall be mixed with the content of the syringe before use, resulting in a gel that is applied by the syringe on to the teeth's in the gingival area. The product is intended as a “stand alone” device or together with a motorized brush for professional debridement of teeth and implanted implants, by dissolving biofilm/killing bacteria and increasing the effectiveness of mechanical removal of biofilm/plaque, which causes inflammatory situations. Their removal therefore brings advantages with regard to the following aspects:

- attenuation of degradation of dental enamel;
- attenuation of inflammation/gingivitis;

- attenuation of the onset of periodontitis, bone damage and loss of teeth;
- attenuation of the onset of peri-implantitis, when used on implant surface.

During use, the syringe is intended to guarantee a final concentration ranging from 3% to 5% of H₂O₂. The gel destroys bacteria and viruses with reactive oxygen species (ROS).

Outcome:

The product has a medical intended purpose based on claims regarding attenuation of inflammation - gingivitis, periodontitis and peri-implantitis. However, the antimicrobial action of ROS, which is considered as the principal intended action, should be considered pharmacological, immunological or metabolic mode of action. The decision of [ECJ ruling 6 September 2012, case C-308/11](#), also supports that such antimicrobial actions on the human body should be considered pharmacological. Consequently, considering the principal mode of action, this product should not be qualified as a medical device.

In regard to the prefilled syringe it has to be considered that a device which is placed on the market in such a way that the device and a medicinal product form a single integral product which is intended exclusively for use in the given combination and which is not reusable, shall be governed by Directive 2001/83/EC. The relevant essential requirements of Annex I to the Regulation (EU) 2017/745 on medical devices shall apply as far as safety and performance-related device features are concerned.

1.1.3. Borderline between medical devices and biocides

This section covers the borderline between products that may fall under the MDR or possibly under Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

1.1.3.1 Substance for textile treatment

Background:

The product is a concentrate for water-based treatment of textile materials to impart antifungal, antimicrobial and antiviral properties in various applications.

The intended purpose is the prevention of human infectious diseases caused by microorganisms spread through contact with surfaces, especially textile ones. The infectious diseases intended to be prevented are influenza, COVID-19 and hospital-acquired infections.

Outcome:

This product does not act on individual patients, rather, it imparts antifungal, antimicrobial and antiviral properties onto textiles. Based on the information provided by the manufacturer this product should not be qualified as a medical device.

1.1.4. Borderline between medical devices and substances of human origin

This section covers the borderline between products that may fall under MDR or possibly under Directive 2004/23/EC on setting standards of quality and safety for the donation, procurement, testing, processing, preservation, storage and distribution of human tissues and cells or Directive 2002/98/EC on blood and blood components.

1.1.5. Borderline between medical devices and cosmetic products

This section covers the borderline between products that may fall under the MDR or possibly under Regulation (EC) No 1223/2009 on cosmetic products.

1.1.6. Borderline between medical devices and food

This section covers the borderline between products that may fall under MDR on medical devices or possibly under Regulation (EC) 178/2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety.

1.1.7. Borderline between medical devices and personal protective equipment

This section covers the borderline between products that may fall under the MDR or possibly under Regulation (EU) 2016/425 on personal protective equipment.

1.1.8.1 Rescue bag for patient transport

Background:

The rescue bag is designed for the transportation of patients during rescue operations. According to the manufacturer, the product is intended to protect the patient mechanically, as well as thermally, during the salvage. The mechanical protection of the head is ensured by additional padding in the head area. To stabilize the patient during the transport, as well as to attach safety equipment during different manoeuvres, side straps are sewed onto the rescue bag. Furthermore, the product aims to avoid repeated unpacking and packing of the patient during changes of the transportation device, e.g. from the emergency rescue sledge to the ambulance. The general intended purpose of the rescue bag is the patient's support and protection.

Outcome:

The product in question enables stable and protected transport of patients in order to avoid the worsening of their state of health. The intended purpose of the product corresponds to the medical purpose of alleviation of, or compensation for, an injury or disability, according to Art.

2(1) of the MDR. It should be therefore qualified as a medical device. The risk class should be MDR class I, according to rule 1.

Please note that this entry refers solely to the qualification of the product as a medical device and that the manufacturer may also have to take into account other existing legislation for products used in emergency rescue.

1.1.8.2 Plexiglas box for caregiver protection

Background:

The product is a safety box intended to prevent caregivers from being exposed to infection (i.e. COVID-19) by containing droplets expelled by the patient during endotracheal intubation, tracheotomy or any airway related procedure.

The box is intended to be placed over the patient's head, covering the upper body from head to shoulders. It is fixed to the bed or the operating table by straps. There are 2 holes for the physician's arms to allow access to the patient, and rectangular holes on the sides for insertion of ventilation circuits, anaesthesia circuits, infusion tubes. The intubation equipment is placed in the box. The physician inserts arms into the holes to intubate the patient.

The manufacturer designed two models of boxes, one for tracheotomy and one for intubation. They are intended by the manufacturer to secure and protect users during medical procedures.

Outcome:

A medical device has the aim to provide protection of health and safety of the patient. An intended medical use may not be defined when the product is primarily intended to protect the caregiver or health care professional.

A product solely intended to protect a caregiver or health care professional by preventing exposure during a medical or surgical procedure, should not be qualified as a medical device.

1.1.8. Borderline between medical devices and general consumer products

This section covers the borderline between products that may fall under the MDR or possibly under Directive 2001/95/EC on general product safety.

1.1.9. Other medical device borderlines

1.1.9.1 Smartphone application for STI prevention strategies

Background:

This application is intended by the manufacturer to "prevent sexually transmitted infections (STIs), by allowing for the exchange of information between different sexual partners."

It permits the recording of biological analysis results, like STI results, in order to share this information with other potential sexual partners, within a network. During an encounter, these results are shared by scanning a potential sexual partner's QR-code; the user then becomes part of each other's networks.

Where the functionality has previously been set up by the user, in case of positive tests for an STI the application sends automatic anonymised notifications to all those in their sexual network (two degrees of contact).

In this case, the application lets the user know what to do and helps him/her find the right services. For example, it encourages users to avoid unprotected sex and advises them on recommended testing practices based on their most recent data, limiting the spread of an STI within a sexual network and fostering earlier testing and treatment.

According to the manufacturer, this application also allows the evaluation, through "the risk calculator" function, of the risk of infection with an STI based on sexual habits, the number of connections, and also levels of infection in the network of sexual partners.

Outcome:

The application transmits and exchanges data and information between partners. On this basis alone, the software would not perform an action on data other than communication, as per in MDCG 2019-11. The application does not prevent sexually transmitted diseases, but rather facilitates the exchange of information and communication between different users.

The application also contains a particular functionality that assesses the user's risk of contracting a STI. The risk calculation is based on the behaviour of this person and their contacts tree. In this case, the prevention does not rely on specific characteristics of the individual user (physiological parameters, etc...) but mainly on their sexual habits and behaviour towards their partners, within a sexual network.

Therefore, the risk calculation is based on indirect criteria and not on physiological parameters. It appears to be an epidemiologic tool rather than a prevention tool within the meaning of the medical device definition. As such, the "risk calculation to prevent STI diseases" cannot be considered as a medical purpose according to the definition of medical device.

The product does not therefore fulfil the definition of medical device, according to Regulation (EU) 2017/745, and should not be qualified as such.

1.2. Classification of medical devices

The respective sections will be populated when cases are finalised under the Helsinki Procedure.

1.2.1. Rule 1

1.2.1.1 Rescue bag for patient transport

See entry 1.1.8.1.

1.2.2. Rule 2

1.2.3. Rule 3

1.2.4. Rule 4

1.2.5. Rule 5

1.2.6. Rule 6

1.2.7. Rule 7

1.2.7.1 Dermal filler implantable

Background:

Dermal fillers are usually devices intended to be used for aesthetic purposes included in the annex XVI to the MDR. These devices are injected into the skin with a syringe, at different depths, to help fill in facial wrinkles and provide facial volume. Most of these wrinkle fillers are temporary (not permanent) because they are eventually absorbed by the body. Most dermal fillers today are constituted of hyaluronic acid.

There are also dermal fillers which are qualified as medical devices, as they are intended to compensate for fat loss, e.g. in HIV infected patients with severe facial lipoatrophy, caused by the highly active antitretroviral therapy. The result of this injection of dermal fillers is the modification of the anatomy.

According to Article 2(5) of the MDR:

‘implantable device’ means any device, including those that are partially or wholly absorbed, which is intended:

- to be totally introduced into the human body, or
- to replace an epithelial surface or the surface of the eye,

by clinical intervention and which is intended to remain in place after the procedure.

Outcome:

Dermal fillers which are wholly or mainly absorbed, are covered by rules 7 and 8 of Annex VIII of the MDR, depending on the intended duration of use.

As they are administered by injection, and this is considered a clinical intervention, they fulfil the definition of an implantable device, according to Article 2(5) of the MDR.

1.2.8. Rule 8

1.2.8.1 Dermal filler implantable

See entry 1.2.7.1.

1.2.9. Rule 9

1.2.9.1 Argon coagulation units

Background:

These units are used in argon plasma coagulation, a monopolar electrosurgical technique where the argon plasma takes the role of the application electrode, which makes the intervention using this technique contactless.

The argon coagulation unit ensures the delivery and controlled flow of argon to the argon electrode. The unit is intended to be connected to two argon cylinders and an electrosurgical generator. The unit enables adjustment of the argon flow, checks the argon volume in the connected cylinders and ensures the selection between the connected cylinders.

Outcome:

Due to their intended use, i.e. to enable the argon plasma coagulation and the dependence on an electrical energy source, argon coagulation units are active therapeutic devices. Argon coagulation units directly influence the argon plasma coagulation where the electrical energy is administered to the body tissues by the argon plasma stream, which takes the role of the application electrode. Taking into account the site of application as well as the nature and the density of the applied energy, argon coagulation units are considered to be delivering energy in a potentially hazardous way. Therefore, argon coagulation units should be classified as class IIb devices according to Rule 9.

1.2.10. Rule 10

1.2.11. Rule 11

1.2.12. Rule 12

1.2.13. Rule 13

1.2.14. Rule 14

1.2.15. Rule 15

1.2.16. Rule 16

1.2.16.1 Ethylene oxide gas cartridges

Background:

Ethylene oxide (EtO) gas is a sterilant. The product in question is a single-use cartridge containing 100% EtO. The intended use for these cartridges is to sterilise and disinfect medical devices.

An EtO gas sterilisation cycle consists of five steps: preconditioning and humidification, gas introduction, exposure, evacuation and air washes. The EtO gas cartridges are used as the source of EtO. EtO gas cartridges cannot perform the sterilization process by themselves; however, the sterilization cycle cannot occur, without these cartridges.

Therefore, the question has arisen, as whether EtO gas cartridges should be considered at least as Class IIa medical devices, since they enable and participate to the sterilization cycle.

Outcome:

Rule 16 of the Regulation (EU) 2017/745 states that “[...] All devices intended specifically to be used for disinfecting or sterilising medical devices are classified as class IIa, unless they are disinfecting solutions or washer-disinfectors intended specifically to be used for disinfecting invasive devices, as the end point of processing, in which case they are classified as class IIb. [...]”

In this case, these products specifically intended to be used for sterilization of medical devices in healthcare institution are covered by Rule 16 of the MDR and should be classified at least as class IIa medical devices.

1.2.17. Rule 17

1.2.18. Rule 18

1.2.19. Rule 19

1.2.20. Rule 20

1.2.21. Rule 21

1.2.22. Rule 22

2. Regulation (EU) 2017/746 on *in vitro* diagnostic medical devices

2.1 Qualification of IVDs

The respective sections will be populated when cases are finalised under the Helsinki Procedure.

2.1.1. Borderline between IVDs and medical devices

This section covers the demarcation between products that may fall under the IVDR or under the MDR, where the conclusion is that the product should be qualified as an IVD.

2.1.1.1 FeNO measuring device

Background:

The product is intended by its manufacturer to be used for the measuring of fractional exhaled Nitric Oxide (FeNO). NO is a gas produced by cells involved in the inflammation associated with allergic or eosinophilic asthma. The NO is exhaled, meaning that the NO level, which is related to the occurrence of some diseases, may be measured in the breath. The patient is instructed by the healthcare professional to inhale through the filter of the breathing handle and then to exhale slowly back through the filter.

The product is composed of different parts, where the instruments and breathing handle are regarded as *in vitro* diagnostic medical devices, but the disposable filter (viral and bacterial) that has to be changed for each new measurement session and for each patient is CE marked according to the Regulation (EU) 2017/745 in class I.

Outcome:

The exhaled air is no longer part of the human body and therefore the exhaled air is considered to be a gaseous specimen derived from the human body, which is subsequently analysed by a device outside of the body. The device provides information for a medical purpose concerning a physiological or pathological state, which would qualify this product as an *in vitro* diagnostic medical device according to the Regulation (EU) 2017/746.

Since the principal intended purpose of the product is to be used for the examination of specimens derived from the human body for the purposes of providing information, according to the definition in Article 2(1) of the Regulation (EU) 2017/746, it is qualified as an *in vitro* diagnostic medical device.

2.1.2. Borderline between IVDs and general laboratory equipment

2.1.3. Other IVD borderlines

2.2 Classification of IVDs

The respective sections will be populated when cases are finalised under the Helsinki Procedure.

2.2.1. Rule 1

2.2.2. Rule 2

2.2.3. Rule 3

2.2.4. Rule 4

2.2.5. Rule 5

2.2.6. Rule 6

2.2.7. Rule 7

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