

(b) *Classification*. Class II (special controls). The special controls for this device are:

(1) Design verification and validation must include:

(i) Detailed device description documentation, including the device components, ancillary reagents required but not provided, a detailed explanation of the methodology, including primer/probe sequence, design, rationale for sequence selection, and details of the antimicrobial agents, as applicable.

(ii) Detailed documentation from the following analytical and clinical performance studies: limit of detection, inclusivity, precision, reproducibility, interference, cross-reactivity, carryover, and cross-contamination, quality control and additional studies, as applicable to specimen type and assay intended use.

(iii) Detailed documentation from an appropriate clinical study. The study, performed on a study population consistent with the intended use population, must compare the device performance to results obtained from well-accepted reference methods.

(iv) Detailed documentation for device software, including software applications and hardware-based devices that incorporate software.

(2) The labeling required under § 809.10(b) of this chapter must include:

(i) Limitations and protocols regarding the need for correlation of results by standard laboratory procedures, as applicable.

(ii) A detailed explanation of the interpretation of results and acceptance criteria.

(iii) A detailed explanation of the principles of operation and procedures for assay performance and troubleshooting.

Dated: June 9, 2025.

Grace R. Graham

Deputy Commissioner for Policy, Legislation, and International Affairs.

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Part 866

[Docket No. FDA–2025–N–1505]

Medical Devices; Immunology and Microbiology Devices; Classification of the Clinical Mass Spectrometry Microorganism Identification and Differentiation System

AGENCY: Food and Drug Administration, HHS.

ACTION: Final amendment; final order.

SUMMARY: The Food and Drug Administration (FDA, the Agency, or we) is classifying the clinical mass spectrometry microorganism identification and differentiation system into class II (special controls). The special controls that apply to the device type are identified in this order and will be part of the codified language for the clinical mass spectrometry microorganism identification and differentiation system's classification. We are taking this action because we have determined that classifying the device into class II (special controls) will provide a reasonable assurance of safety and effectiveness of the device. We believe this action will also enhance patients' access to beneficial innovative devices, in part by reducing regulatory burdens.

DATES: This order is effective June 13, 2025. The classification was applicable on April 20, 2018.

FOR FURTHER INFORMATION CONTACT: Dina Jerebitski, Center for Devices and Radiological Health, Food and Drug Administration, 10903 New Hampshire Ave., Bldg. 66, Rm. 3574, Silver Spring, MD 20993–0002, 301–796–2411, Dina.Jerebitski@fda.hhs.gov.

SUPPLEMENTARY INFORMATION:

I. Background

Upon request, FDA has classified the clinical mass spectrometry microorganism identification and differentiation system as class II (special controls), which we have determined will provide a reasonable assurance of safety and effectiveness. In addition, we believe this action will enhance patients' access to beneficial innovation, in part by reducing regulatory burdens by placing the device into a lower device class than the automatic class III assignment.

The automatic assignment of class III occurs by operation of law and without any action by FDA, regardless of the level of risk posed by the new device. Any device that was not in commercial distribution before May 28, 1976, is automatically classified as, and remains within, class III and requires premarket approval unless and until FDA takes an action to classify or reclassify the device (see 21 U.S.C. 360c(f)(1)). We refer to these devices as “postamendments devices” because they were not in commercial distribution prior to the date of enactment of the Medical Device Amendments of 1976, which amended the Federal Food, Drug, and Cosmetic Act (FD&C Act).

FDA may take a variety of actions in appropriate circumstances to classify or

reclassify a device into class I or II. We may issue an order finding a new device to be substantially equivalent under section 513(i) of the FD&C Act (21 U.S.C. 360c(i)) to a predicate device that does not require premarket approval. We determine whether a new device is substantially equivalent to a predicate device by means of the procedures for premarket notification under section 510(k) of the FD&C Act (21 U.S.C. 360(k)) and part 807 (21 CFR part 807).

FDA may also classify a device through “De Novo” classification, a common name for the process authorized under section 513(f)(2) of the FD&C Act (see also part 860, subpart D (21 CFR part 860, subpart D)). Section 207 of the Food and Drug Administration Modernization Act of 1997 (Pub. L. 105–115) established the first procedure for De Novo classification. Section 607 of the Food and Drug Administration Safety and Innovation Act (Pub. L. 112–144) modified the De Novo application process by adding a second procedure. A device sponsor may utilize either procedure for De Novo classification.

Under the first procedure, the person submits a 510(k) for a device that has not previously been classified. After receiving an order from FDA classifying the device into class III under section 513(f)(1) of the FD&C Act, the person then requests a classification under section 513(f)(2).

Under the second procedure, rather than first submitting a 510(k) and then a request for classification, if the person determines that there is no legally marketed device upon which to base a determination of substantial equivalence, that person requests a classification under section 513(f)(2) of the FD&C Act.

Under either procedure for De Novo classification, FDA is required to classify the device by written order within 120 days. The classification will be according to the criteria under section 513(a)(1) of the FD&C Act. Although the device was automatically placed within class III, the De Novo classification is considered to be the initial classification of the device.

We believe this De Novo classification will enhance patients' access to beneficial innovation, in part by reducing regulatory burdens. When FDA classifies a device into class I or II via the De Novo process, the device can serve as a predicate for future devices of that type, including for 510(k)s (see section 513(f)(2)(B)(i) of the FD&C Act). As a result, other device sponsors do not have to submit a De Novo request or premarket approval application to market a substantially equivalent device

(see section 513(i) of the FD&C Act, defining “substantial equivalence”). Instead, sponsors can use the less burdensome 510(k) process, when necessary, to market their device.

II. De Novo Classification

On September 29, 2017, FDA received Bruker Daltonik GmbH’s request for De Novo classification of the MALDI Biotyper CA System. FDA reviewed the request in order to classify the device under the criteria for classification set forth in section 513(a)(1) of the FD&C Act.

We classify devices into class II if general controls by themselves are insufficient to provide reasonable assurance of safety and effectiveness, but there is sufficient information to establish special controls that, in combination with the general controls,

provide reasonable assurance of the safety and effectiveness of the device for its intended use (see 513(a)(1)(B) of the FD&C Act). After review of the information submitted in the request, we determined that the device can be classified into class II with the establishment of special controls. FDA has determined that these special controls, in addition to the general controls, will provide reasonable assurance of the safety and effectiveness of the device.

Therefore, on April 20, 2018, FDA issued an order to the requester classifying the device into class II (special controls). FDA issued a correction to the order on June 22, 2018. In this final order, FDA is codifying the classification of the device by adding 21 CFR 866.3378.¹ We have named the

generic type of device “clinical mass spectrometry microorganism identification and differentiation system,” and it is identified as a qualitative in vitro diagnostic device intended for the identification and differentiation of microorganisms from processed human specimens. The system acquires, processes, and analyzes spectra to generate data specific to a microorganism(s). The device is indicated for use in conjunction with other clinical and laboratory findings to aid in the diagnosis of bacterial and fungal infection.

FDA has identified the following risks to health associated specifically with this type of device and the measures required to mitigate these risks in table 1.

TABLE 1—CLINICAL MASS SPECTROMETRY MICROORGANISM IDENTIFICATION AND DIFFERENTIATION SYSTEM RISKS AND MITIGATION MEASURES

Identified risks to health	Mitigation measures
Incorrect identification or lack of identification of a pathogenic microorganism.	Special controls (1) (21 CFR 866.3378(b)(1)), (2) (21 CFR 866.3378(b)(2)), (3) (21 CFR 866.3378(b)(3)), (4) (21 CFR 866.3378(b)(4)), and (5) (21 CFR 866.3378(b)(5)).
Failure to correctly interpret test results	Special control (3) (21 CFR 866.3378(b)(3)).
Failure to correctly operate the instrument	Special controls (3)(i) (21 CFR 866.3378(b)(3)(i)), and (5)(iv)(H) (21 CFR 866.3378(b)(5)(iv)(H)).

FDA has determined that special controls, in combination with the general controls, address these risks to health and provide reasonable assurance of safety and effectiveness. For a device to fall within this classification, and thus avoid automatic classification in class III, it would have to comply with the special controls named in this final order. The necessary special controls appear in the regulation codified by this final order. This device is subject to premarket notification requirements under section 510(k) of the FD&C Act.

III. Analysis of Environmental Impact

The Agency has determined under 21 CFR 25.34(b) that this action is of a type that does not individually or cumulatively have a significant effect on the human environment. Therefore, neither an environmental assessment nor an environmental impact statement is required.

IV. Paperwork Reduction Act of 1995

This final order establishes special controls that refer to previously approved collections of information

found in other FDA regulations and guidance. These collections of information are subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3521). The collections of information in part 860, subpart D, regarding De Novo classification have been approved under OMB control number 0910–0844; the collections of information in 21 CFR part 814, subparts A through E, regarding premarket approval have been approved under OMB control number 0910–0231; the collections of information in part 807, subpart E, regarding premarket notification submissions have been approved under OMB control number 0910–0120; the collections of information in 21 CFR part 820 regarding the quality system regulation have been approved under OMB control number 0910–0073; and the collections of information in 21 CFR parts 801 and 809 regarding labeling have been approved under OMB control number 0910–0485.

List of Subjects in 21 CFR Part 866

Biologics, Laboratories, Medical devices.

Therefore, under the Federal Food, Drug, and Cosmetic Act and under authority delegated to the Commissioner of Food and Drugs, 21 CFR part 866 is amended as follows:

PART 866—IMMUNOLOGY AND MICROBIOLOGY DEVICES

■ 1. The authority citation for part 866 continues to read as follows:

Authority: 21 U.S.C. .351, 360, 360c, 360e, 360j, 360l, 371.

■ 2. Add § 866.3378 to subpart D to read as follows:

§ 866.3378 Clinical mass spectrometry microorganism identification and differentiation system.

(a) *Identification.* A clinical mass spectrometry microorganism identification and differentiation system is a qualitative in vitro diagnostic device intended for the identification and differentiation of microorganisms from processed human specimens. The

¹ FDA notes that the **ACTION** caption for this final order is styled as “Final amendment; final order,” rather than “Final order.” Beginning in December 2019, this editorial change was made to indicate

that the document “amends” the Code of Federal Regulations. The change was made in accordance with the Office of Federal Register’s (OFR) interpretations of the Federal Register Act (44

U.S.C. chapter 15), its implementing regulations (1 CFR 5.9 and parts 21 and 22), and the Document Drafting Handbook.

system acquires, processes, and analyzes spectra to generate data specific to a microorganism(s). The device is indicated for use in conjunction with other clinical and laboratory findings to aid in the diagnosis of bacterial and fungal infection.

(b) *Classification.* Class II (special controls). The special controls for this device are:

(1) The intended use statement must include a detailed description of what the device detects, the type of results provided to the user, the clinical indications appropriate for test use, and the specific population(s) for which the device is intended, when applicable.

(2) Any sample collection device used must be FDA-cleared, -approved, or -classified as 510(k) exempt with an indication for in vitro diagnostic use.

(3) The labeling required under § 809.10(b) of this chapter must include:

(i) A detailed device description, including all device components, control elements incorporated into the test procedure, instrument requirements, ancillary reagents required but not provided, and a detailed explanation of the methodology and all pre-analytical methods for processing of specimens, and algorithm used to generate a final result. This must include a description of validated inactivation procedure(s) that are confirmed through a viability testing protocol, as applicable.

(ii) Performance characteristics for all claimed sample types from clinical studies with clinical specimens that include prospective samples and/or, if appropriate, characterized samples.

(iii) Performance characteristics of the device for all claimed sample types based on analytical studies, including limit of detection, inclusivity, reproducibility, interference, cross-reactivity, interfering substances, carryover/cross-contamination, sample stability, and additional studies regarding processed specimen type and intended use claims, as applicable.

(iv) A detailed explanation of the interpretation of test results for clinical specimens and acceptance criteria for any quality control testing.

(4) The device's labeling must include a prominent hyperlink to the manufacturer's website where the manufacturer must make available their most recent version of the device's labeling required under § 809.10(b) of this chapter, which must reflect any changes in the performance characteristics of the device. FDA must have unrestricted access to this website, or manufacturers must provide this information to FDA through an

alternative method that is considered and determined by FDA to be acceptable and appropriate.

(5) Design verification and validation must include:

(i) Any clinical studies must be performed with samples representative of the intended use population and compare the device performance to results obtained from an FDA-accepted reference method and/or FDA-accepted comparator method, as appropriate. Documentation from the clinical studies must include the clinical study protocol (including predefined statistical analysis plan, if applicable), clinical study report, and results of all statistical analyses.

(ii) Performance characteristics for analytical and clinical studies for specific identification processes for the following, as appropriate:

(A) Bacteria,
(B) Yeasts,
(C) Molds,
(D) Mycobacteria,
(E) Nocardia,
(F) Direct sample testing (e.g., blood culture),
(G) Antibiotic resistance markers, and
(H) Select agents (e.g., pathogens of high consequence).

(iii) Documentation that the manufacturer's risk mitigation strategy ensures that their device does not prevent any device(s) with which it is indicated for use, including incorporated device(s), from achieving their intended use (e.g., safety and effectiveness of the functions of the indicated device(s) remain unaffected).

(iv) A detailed device description, including the following:

(A) Overall device design, including all device components and all control elements incorporated into the testing procedure.

(B) Algorithm used to generate a final result from raw data (e.g., how raw signals are converted into a reported result).

(C) A detailed description of device software, including validation activities and outcomes.

(D) Acquisition parameters (e.g., mass range, laser power, laser profile and number of laser shots per profile, raster scan, signal-to-noise threshold) used to generate data specific to a microorganism.

(E) Implementation methodology, construction parameters, and quality assurance protocols, including the standard operating protocol for generation of reference entries for the device.

(F) For each claimed microorganism characteristic, a minimum of five reference entries for each organism

(including the type strain for microorganism identification), or, if there are fewer reference entries, a clinical and/or technical justification, determined by FDA to be acceptable and appropriate, for why five reference entries are not needed.

(G) DNA sequence analysis characterizing all type strains and at least 20 percent of the non-type strains of a species detected by the device, or, if there are fewer strain sequences, then a clinical and/or technical justification, determined by FDA to be acceptable and appropriate, must be provided for the reduced number of strains sequenced.

(H) As part of the risk management activities, an appropriate end user device training program, which must be offered as an effort to mitigate the risk of failure from user error.

Dated: June 9, 2025.

Grace R. Graham,

Deputy Commissioner for Policy, Legislation, and International Affairs.

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Part 866

[Docket No. FDA–2025–N–1262]

Medical Devices; Immunology and Microbiology Devices; Classification of the Device To Detect and Identify Fungal Nucleic Acids Directly in Respiratory Specimens

AGENCY: Food and Drug Administration, Department of Health and Human Services (HHS).

ACTION: Final amendment; final order.

SUMMARY: The Food and Drug Administration (FDA, Agency, or we) is classifying the device to detect and identify fungal nucleic acids directly in respiratory specimens into class II (special controls). The special controls that apply to the device type are identified in this order and will be part of the codified language for the device to detect and identify fungal nucleic acids directly in respiratory specimens' classification. We are taking this action because we have determined that classifying the device into class II (special controls) will provide a reasonable assurance of safety and effectiveness of the device. We believe this action will also enhance patients' access to beneficial innovative devices, in part by reducing regulatory burdens.