

Haynes and Boone, LLP
1801 Broadway St., Suite 800
Denver, Colorado 80202
(303) 382-6200

Approximate date of commencement of proposed sale to the public: From time to time after this Registration Statement becomes effective.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with the dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment hereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer

Smaller reporting company

R

(Do not check if a smaller reporting company)

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered(2)	Amount to be Registered(3)	Proposed Maximum Price per Unit(4)	Proposed Maximum Aggregate Offering Price(5)	Amount of Registration Fee(1)
Chembio Diagnostics, Inc.:				
Common Stock (including Preferred Share Purchase Rights) (6)				
Preferred Stock (6)				
Warrants to purchase Common Stock (7)				
Warrants to purchase Preferred Stock (7)				
Units (8)				
TOTAL:	\$35,000,000	\$35,000,000		\$3,524.50

(1) Estimated in accordance with Rule 457(o) solely for the purpose of calculating the registration fee.

(2) Any securities registered hereunder may be sold separately or together with other securities registered hereunder as units.

(3) Includes such indeterminate number of shares of common stock, shares of preferred stock, warrants to purchase common stock, warrants to purchase preferred stock and units that Chembio Diagnostics, Inc. may sell pursuant to this Registration Statement, which may not exceed the maximum aggregate offering price of \$35,000,000. The securities registered hereunder also include such indeterminate number of shares of common stock, preferred stock, warrants or units that may be issued upon conversion, exchange or exercise of any of the securities being registered hereby.

(4) Omitted pursuant to General Instruction II.D of Form S-3. The proposed maximum offering price per class of security will be determined from time to time by Chembio Diagnostics, Inc. in connection with, and at the time of, the issuance by Chembio Diagnostics, Inc. of the securities registered hereunder.

(5) In no event will the aggregate initial offering price of the securities issued under this Registration Statement exceed the amount registered above or the equivalent thereof in one or more foreign currencies or currency units.

Such indeterminate number of shares of common stock or preferred stock, as may be issued from time to time at indeterminate prices.
 The common stock includes certain Preferred Share Purchase Rights (the "Rights") issued pursuant to the Rights Agreement dated as of March 8, 2016 (filed on Exhibit 4.1 to the Company's Registration Statement on Form 8-A filed on March 8, 2016) (the "Rights Agreement") between the Company and Action Stock Transfer Company, as (6) Rights Agent. Until the occurrence of certain events specified in the Rights Agreement, none of which have occurred as of the filing of this Registration Statement, the Rights are not exercisable, are evidenced only by the certificates for common stock, and will be transferred along with and only with, and are not severable from, the common stock. The value attributable to the Rights, if any, is reflected in the market price of the common stock. No separate consideration will be payable for the Rights.

Warrants will represent rights to purchase common stock or preferred stock registered hereby. Because the (7) warrants will provide a right only to purchase such securities offered hereunder, no additional registration fee is required.

(8) Such indeterminate number of units, which will be comprised of two or more of the securities registered hereby in any combination.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

This Amendment No. 2 on Form S-3/A (this "Amendment") to the Registration Statement on Form S-3 of Chembio Diagnostics, Inc. (the "Company") is being filed to amend Exhibits 5.1 and 23.2 of Item 16 of Part II to include the revised opinion and consent of Ballard Spahr LLP. No changes have been made to Part I.

PART II

INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the estimated expenses to be incurred in connection with the issuance and distribution of the securities being registered, other than underwriting discounts and commissions, all of which will be paid by the Company.

SEC Registration fee	3,524.50
Legal fees and expenses	25,000.00
Accounting fees and expenses	10,000.00
Other	1,475.50
Total	\$40,000.00

* Estimate

Item 15. Indemnification of Directors and Officers.

Nevada law permits a Nevada corporation, such as the Registrant, to indemnify its directors and officers in certain circumstances. Specifically, Section 78.7502 of the NRS provides as follows:

Indemnification of directors and officers.

(1) A corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding whether civil, criminal, administrative or investigative, except an action by or in the right of the corporation, by reason of the fact that he is or was a director or officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director or officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with such action, suit or proceeding if he: (a) is not liable pursuant to NRS 78.138 or (b) acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere, or its equivalent, does not, of itself, create a presumption that the person is liable pursuant to NRS 78.138 or did not act in good faith and in a manner which he reasonable believed to be in or not opposed to the bests interests of the corporation, or that, with respect to any criminal action or proceedings, he had reasonable cause to believe that his conduct was unlawful.

(2) A corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that he is or was a director or officer, employee or agent of the corporation, or is or was serving at the request of the corporation, or is or was serving at the request of the corporation as a director or officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses including amounts paid in settlement and attorneys' fees actually and reasonably incurred by him in connection with

the defense or settlement of the action or suit if he (a) is not liable pursuant to NRS 78.138 or (b) acted in good faith and in a manner which he reasonably believed to be in or not, opposed to the best interests of the corporation. Indemnification may not be made for any claim, issue or matter as to which such a person shall have been adjudged by a court of competent jurisdiction, after exhaustion of all appeals therefrom, to be liable for negligence or misconduct in the performance of his duty to the corporation or for amounts paid in settlement to the corporation, unless and only to the extent that the court in which such action or suit was brought or other court of competent jurisdiction determines upon application that in view of all the circumstances of the case, the person is fairly and reasonably entitled to indemnity for such expenses which the court shall deem proper.

(3) To the extent that a director or officer of a corporation has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in subsections (1) or (2) of this section, or in the defense of any claim, issue or matter therein, the corporation shall indemnify him against expenses, including attorneys' fees, actually and reasonably incurred by him in connection therewith.

The Registrant's bylaws provide that it will indemnify any of its directors or officers against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, relating to service for or at the request of the Registrant. The Registrant will not indemnify a director or officer if in relation to matters such director or officer is adjudged in the action, suit or proceeding to be liable for negligence or misconduct in the performance of their duties.

The Registrant's articles of incorporation also provide that no director will be personally liable to the Registrant or its stockholders for monetary damages for breach of fiduciary duty as a director, except that the director's liability will not be eliminated or limited: (A) for acts or omissions involving intentional misconduct, fraud or a knowing violation of the law; or (B) for the payment of any distribution in violation of Nevada law.

Item 16. Exhibits

EXHIBIT INDEX

Exhibit

No.	Description
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1.1	Form of Underwriting Agreement*
4.1	Form of certificate of designation of series of preferred stock*
4.2	Form of securities and warrant agreement*
5.1	Opinion of Ballard Spahr LLP
8.0	Opinion as to certain federal income tax matters*
23.1	Consent of BDO USA, LLP
23.2	Consent of Ballard Spahr LLP (included in Exhibit 5.1)
24	Power of Attorney of certain officers and directors (located on the signature page to the Registration Statement)

* To be filed, as applicable, by amendment or as an exhibit to a document incorporated by reference herein for the specific offering of securities, if any, to which it relates.

Item 17. Undertakings

The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

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(ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (i), (ii) and (iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(A) Each prospectus filed by a Registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which the prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of a Registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, each undersigned Registrant undertakes that in a primary offering of securities of an undersigned Registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned Registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of an undersigned Registrant relating to the offering required to be filed pursuant to Rule 424;

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(ii) Any free writing prospectus relating to the offering prepared by or on behalf of an undersigned Registrant or used or referred to by an undersigned Registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about an undersigned Registrant or its securities provided by or on behalf of an undersigned Registrant; and

(iv) Any other communication that is an offer in the offering made by an undersigned Registrant to the purchaser.

(6) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of each Registrant pursuant to the foregoing provisions, or otherwise, each Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by a Registrant of expenses incurred or paid by a director, officer or controlling person of a Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, that Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the state of New York, on April 1, 2016.

CHEMBIO DIAGNOSTICS, INC.

By: /s/ John J. Sperzel III

John J. Sperzel III

President, Chief Executive Officer and
Chairman of the Board

POWER OF ATTORNEY

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the date indicated. Each person whose signature appears below, hereby makes, constitutes and appoints John J. Sperzel III or their respective true and lawful attorney, with full power to sign for such person and in such person's name and capacity indicated below, and with full power of substitution, any and all amendments, including post-effective amendments, to this Registration Statement, hereby ratifying and confirming such person's signature as it may be signed by said attorney to any and all amendments.

Name	Title	Date
<u>/s/ John J. Sperzel III</u> John J. Sperzel III	Chief Executive Officer, President and Chairman of the Board (principal executive officer)	April 1, 2016
<u>/s/ Richard J. Larkin*</u> Richard J. Larkin	Chief Financial Officer (principal financial officer & accounting officer)	April 1, 2016
<u>/s/ Gary Meller*</u> Dr. Gary Meller	Director	April 1, 2016
<u>/s/ Katherine L. Davis*</u> Katherine L. Davis	Director	April 1, 2016
<u>/s/ Pete Kissinger*</u>	Director	April 1, 2016

Pete Kissinger

/s/ Barbara DeBuono* Director
Barbara DeBuono

April 1, 2016

* - Executed by John J. Sperzel III through power of attorney

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