

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Eloxx Pharmaceuticals, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
Incorporation or organization)

84-1368850
(I.R.S. Employer
Identification No.)

950 Winter Street
Waltham, MA 02451
(Address of principal executive offices) (Zip code)

Eloxx Pharmaceuticals, Inc. 2018 Equity Incentive Plan
(Full titles of the plans)

Neil S. Belloff
Chief Operating Officer, General Counsel and Corporate Secretary
Eloxx Pharmaceuticals, Inc.
950 Winter Street
Waltham, MA 02451
(781) 557-5300

(Name and address of agent for service) (Telephone number, including area code, of agent for service)

Copies to:
Miguel J. Vega
Cooley LLP
500 Boylston Street
Boston, MA 02116
(617) 937-2300

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, par value \$0.01 per share				
2018 Equity Incentive Plan	2,007,859 ⁽²⁾	\$3.67 ⁽³⁾	\$7,368,842.53 ⁽³⁾	\$803.94
Total	2,007,859 shares	—	\$7,368,842.53	\$803.94

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the “Securities Act”), this Registration Statement shall also cover any additional shares of Registrant’s Common Stock (“Common Stock”) that become issuable in respect of the securities identified in the above table by reason of any stock dividend, stock split, recapitalization or other similar transaction that results in an increase in the number of outstanding shares of Registrant’s Common Stock.
- (2) Represents shares of Common Stock that were automatically added to the shares authorized for issuance under the Registrant’s 2018 Equity Incentive Plan (the “2018 Plan”) on January 1, 2021, pursuant to an “evergreen” provision contained in the 2018 Plan. Pursuant to such provision, on January 1 of each year through January 1, 2028, the number of shares authorized for issuance under the 2018 Plan is automatically increased by an amount equal to 5% of the total number of shares of the Registrant’s capital stock outstanding on December 31st of the preceding calendar year.
- (3) Estimated in accordance with Rules 457(c) and (h) promulgated under the Securities Act solely for the purpose of calculating the registration fee on

the basis of \$3.67 per share, the average of the high and low prices of the Registrant’s Common Stock on March 9, 2021 as reported on the Nasdaq Stock Market.

EXPLANATORY NOTE

This Registration Statement on Form S-8 is being filed by Eloxx Pharmaceuticals, Inc. (the “Company” or “Registrant”) for the purpose of registering an aggregate of 2,007,859 shares of Common Stock of the Company, \$0.01 par value per share (“Common Stock”) with respect to the calendar year commencing January 1, 2021, that may be issued under the Registrant’s 2018 Equity Incentive Plan (the “2018 Plan”) pursuant to the provisions of the 2018 Plan which provides for an annual automatic increase in the number of shares of Common Stock reserved for issuance under the 2018 Plan.

These additional shares of the Registrant’s Common Stock are securities of the same class as other securities for which prior Registration Statements of the Registrant on Form S-8 were previously filed with the U.S. Securities and Exchange Commission (the “Commission”) on [March 6, 2020](#) (File No. 333-236952), [May 11, 2018](#) (File No. 333-224860) and [January 10, 2018](#) (File No. 333-222499). Pursuant to General Instruction E to Form S-8, this Registration Statement hereby incorporates by reference the contents of such prior Registration Statements on Form S-8.

PART II

ITEM 3. INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents filed by the Registrant with the Commission are incorporated by reference into this Registration Statement:

- (a) The Registrant's Annual Report on Form 10-K for the year ended December 31, 2020 filed with the Commission on March 12, 2021.
- (b) The Registrant's Current Report on Form 8-K filed with the Commission on January 13, 2021, with the exception of any portions thereof that are not deemed "filed" with the Commission.
- (c) The description of Registrant's Common Stock which is contained in a Registration Statement on Form 8-A filed on April 24, 2018, including any amendment or report filed for the purpose of updating such description.
- (d) All other reports and documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act (other than Current Reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits furnished on such form that relate to such items) on or after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement that indicates that all securities offered have been sold or that deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part of this Registration Statement from the date of the filing of such reports and documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any subsequently filed document that also is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

ITEM 8. EXHIBITS

Exhibit Number	Description
4.1	Amended and Restated Certificate of Incorporation of Senesco Technologies, Inc. filed with the State of Delaware on January 22, 2007. (Incorporated by reference to Exhibit 3.1 of the Registrant's Quarterly Report on Form 10-Q filed on February 14, 2007, File No. 001-31326).
4.2	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Senesco Technologies, Inc. filed with the State of Delaware on December 13, 2007. (Incorporated by reference to Exhibit 3.1 of the Registrant's Quarterly Report on Form 10-Q filed on February 14, 2008, File No. 001-31326).
4.3	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Senesco Technologies, Inc. filed with the State of Delaware on September 22, 2009. (Incorporated by reference to Exhibit 3.3 of the Registrant's Annual Report on Form 10-K filed on September 28, 2009, File No. 001-31326).
4.4	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Senesco Technologies, Inc. filed with the State of Delaware on May 25, 2010. (Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on May 28, 2010, File No. 001-31326).
4.5	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Senesco Technologies, Inc. filed with the State of Delaware on December 22, 2011. (Incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q filed on February 14, 2012, File No. 001-31326).

- 4.6 [Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Senesco Technologies, Inc. filed with the State of Delaware on April 1, 2013. \(Incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q filed on May 15, 2013, File No. 001-31326\).](#)
- 4.7 [Certificate of Amendment to the Registrant's Amended and Restated Certificate of Incorporation, as filed with the Secretary of State of the State of Delaware on October 16, 2013. \(Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed on October 21, 2013, File No. 001-31326\).](#)
- 4.8 [Certificate of Amendment to the Registrant's Amended and Restated Certificate of Incorporation, as filed with the Secretary of State of the State of Delaware on September 29, 2014. \(Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed on October 3, 2014, File No. 001-31326\).](#)
- 4.9 [Certificate of Amendment to the Registrant's Amended and Restated Certificate of Incorporation, as filed with the Secretary of State of the State of Delaware on December 19, 2017. \(Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed on December 22, 2017, File No. 001-31326\).](#)
- 4.10 [Certificate of Amendment to the Registrant's Amended and Restated Certificate of Incorporation, as filed with the Secretary of State of the State of Delaware on December 19, 2017. \(Incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K filed on December 22, 2017, File No. 001-31326\).](#)
- 4.11 [Amended and Restated Bylaws of the Registrant \(Incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K filed on December 27, 2017, File No. 001-31326\).](#)
- 4.12 [Specimen of Common Stock Certificate \(Incorporated by reference to Exhibit 4.1 of the Registrant's Annual Report on Form 10-K filed on March 16, 2018, File No. 001-31326\).](#)

- 5.1* [Opinion of Neil S. Belloff, Chief Operating Officer, General Counsel and Corporate Secretary of Eloxx Pharmaceuticals, Inc.](#)
- 23.1* [Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm.](#)
- 23.2* [Consent of Neil S. Belloff, Chief Operating Officer, General Counsel and Corporate Secretary of Eloxx Pharmaceuticals, Inc \(included in Exhibit 5.1\).](#)
- 24.1* [Power of Attorney \(included on the signature page\).](#)
- 99.1 [Eloxx Pharmaceuticals, Inc. 2018 Equity Incentive Plan \(incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on March 30, 2018, File No. 001-31326\).](#)
- 99.2 [Form of Stock Option Grant Notice, Option Agreement and Notice of Exercise under the Eloxx Pharmaceuticals, Inc. 2018 Equity Incentive Plan \(incorporated by reference to Exhibit 10.2 of the Registrant's Current Report on Form 8-K filed on March 30, 2018, File No. 001-31326\).](#)
- 99.3 [Israeli Sub-Plan under the Eloxx Pharmaceuticals, Inc. 2018 Equity Incentive Plan \(incorporated by reference to Exhibit 10.3 of the Registrant's Current Report on Form 8-K filed on March 30, 2018, File No. 001-31326\).](#)
- 99.4 [Form of Israeli Stock Option Grant Package under the Israeli Sub-Plan under the Eloxx Pharmaceuticals, Inc. 2018 Equity Incentive Plan \(incorporated by reference to Exhibit 10.4 of the Registrant's Current Report on Form 8-K filed on March 30, 2018, File No. 001-31326\).](#)
- 99.5 [Form of Restricted Stock Unit Grant Notice for non-Israeli employees \(incorporated by reference to Exhibit 99.5 of the Registrant's Registration Statement on Form S-8 file on May 11, 2018, File No. 333-224860\).](#)
- 99.6 [Form of Restricted Stock Unit Grant Notice for Israeli employees \(incorporated by reference to Exhibit 10.6 of the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2018, File No. 001-31326\).](#)

* Filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Waltham, State of Massachusetts, on March 12, 2021.

ELOXX PHARMACEUTICALS, INC.

By: /s/ Neil S. Belloff

Neil S. Belloff

Chief Operating Officer, General Counsel and Corporate Secretary

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Gregory C. Williams and Neil S. Belloff, and each or any one of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution and resubstitution, for him or and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the U.S. Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

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 dates indicated.

Name	Title	Date
<u>/s/ Gregory C. Williams, PhD</u> Gregory C. Williams, PhD	Chief Executive Officer (Principal Executive Officer) Director	March 12, 2021
<u>/s/ Stephen MacDonald</u> Stephen MacDonald	Vice President, Finance and Accounting, and Treasurer (Principal Financial and Accounting Officer)	March 12, 2021
<u>/s/ Tomer Kariv</u> Tomer Kariv	Chairman of the Board of Directors	March 12, 2021
<u>/s/ Ran Nussbaum</u> Ran Nussbaum	Director	March 12, 2021
<u>/s/ Silvia Noiman, PhD</u> Silvia Noiman, PhD	Director	March 12, 2021
<u>/s/ Gadi Veinrib</u> Gadi Veinrib	Director	March 12, 2021
<u>/s/ Zafrira Avnur, PhD</u> Zafrira Avnur, PhD	Director	March 12, 2021
<u>/s/ Martijn Kleijwegt</u> Martijn Kleijwegt	Director	March 12, 2021
<u>/s/ Steven D. Rubin</u> Steven D. Rubin	Director	March 12, 2021
<u>/s/ Jasbir Seehra, PhD</u> Jasbir Seehra, PhD	Director	March 12, 2021

March 12, 2021

Eloxx Pharmaceuticals, Inc.
950 Winter Street
Waltham, MA 02451

Re: Eloxx Pharmaceuticals, Inc. Registration Statement on Form S-8

Ladies and Gentlemen:

I have acted as Chief Operating Officer, General Counsel and Corporate Secretary of Eloxx Pharmaceuticals, Inc. (the “**Company**”) in connection with the proposed Registration Statement on Form S-8 (the “**Registration Statement**”) to be filed by the Company with the Securities and Exchange Commission (the “**Commission**”), covering the offering of up to 2,007,859 shares (the “**Shares**”) of the Company’s Common Stock, \$0.01 par value (the “**Common Stock**”), which are issuable pursuant to the Company’s 2018 Equity Incentive Plan (the “**Plan**”).

In connection therewith, I have examined and relied upon the Registration Statement and related prospectuses, the Plan, the Company’s Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, each as currently in effect and the originals or copies certified to my satisfaction, of such other records, documents, certificates, memoranda and other instruments as in my judgment are necessary or appropriate as a basis for this opinion.

For purposes of this opinion, I have assumed the authenticity of all documents submitted to me as originals, the conformity to the originals of all documents submitted to me as copies and the authenticity of the originals of all documents submitted to me as copies. I have also assumed the legal capacity of all natural persons, the genuineness of the signatures of persons signing all documents in connection with which this opinion is rendered, the authority of such persons signing on behalf of the parties thereto other than the Company and the due authorization, execution and delivery of all documents by the parties thereto other than the Company. As to any facts material to the opinions expressed herein, I have relied upon the statements and representations of officers and other representatives of the Company and others. I have also relied upon certificates issued by governmental authorities in the relevant jurisdictions and such opinion is not intended to provide any conclusion or assurance beyond that conveyed by such certificates. My opinion is expressed only with respect to the Federal laws of the United States of America and the General Corporation Law of the State of Delaware.

Based upon and subject to the foregoing, it is my opinion that the Shares, when issued and sold in accordance with the Plan, the Registration Statement as declared effective by the Commission, and related prospectuses, will be validly issued, fully paid and nonassessable (except as to shares issued pursuant to certain deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

I consent to the reference made to me in my capacity as counsel to the Company and the filing of this opinion as an exhibit to the Registration Statement and in any amendments thereof. In giving this consent, I do not admit that I am in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission.

This opinion is limited to the specific issues addressed herein, and no opinion may be inferred or implied beyond that expressly stated herein. I assume no obligation to revise or supplement this opinion should the General Corporation Law of the State of Delaware or the Federal law of the United States be changed by legislative action, judicial decision or otherwise or any future development cause any change or modification herein.

Very truly yours,

/s/ Neil S. Belloff

Neil S. Belloff
Chief Operating Officer, General Counsel and Corporate Secretary

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated March 12, 2021 relating to the consolidated financial statements of Eloxx Pharmaceuticals, Inc., appearing in the Annual Report on Form 10-K of Eloxx Pharmaceuticals, Inc. for the year ended December 31, 2020.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
March 12, 2021
