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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

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**FORM S-8**

REGISTRATION STATEMENT  
UNDER THE SECURITIES ACT OF 1933

**Lantern Pharma Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**1920 McKinney Avenue, 7<sup>th</sup> Floor**  
**Dallas, Texas**  
(Address of Principal Executive Offices)

**46-3973463**  
(I.R.S. Employer  
Identification No.)

**75201**  
(Zip Code)

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**Amended and Restated 2018 Equity Incentive Plan**  
(Full title of the plan)

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**Panna Sharma**  
**Chief Executive Officer**  
**Lantern Pharma Inc.**  
**1920 McKinney Avenue, 7<sup>th</sup> Floor**  
**Dallas, Texas 75201**  
(Name and address of agent for service)

**(972) 277-1136**  
(Telephone number, including area code, of agent for service)

*Copy to:*

**Daniel K. Donahue**  
**Greenberg Traurig, LLP**  
**18565 Jamboree Road, Suite 500**  
**Irvine, California 92612**  
**(949) 732-6500**

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   
Non-accelerated filer

Accelerated filer   
Smaller reporting company   
Emerging growth company

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 7(a)(2)(B) of the Securities Act.

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**PART I**

**INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS**

**Item 1. Plan Information**

On August 29, 2018, Lantern Pharma Inc. (the “Company”) adopted its 2018 Equity Incentive Plan (as subsequently amended and restated, the “Plan”). The maximum number of shares of common stock of the Company that are available for issuance under the Plan is 1,864,680, provided that as of the date of this filing 125,000 shares are subject to the approval of the stockholders of the Company. This Registration Statement on Form S-8 is filed with the Securities and Exchange Commission (“Commission”) for the purposes of registering the 1,864,680 shares of the Company’s common stock issuable under the Plan.

The document(s) containing the information specified in Part I of Form S-8 will be sent or given to participants in the Plan as specified by Rule 428(b)(1) under the Securities Act of 1933, as amended (the “Securities Act”). Such documents are not being filed with the Commission, but constitute, along with the documents incorporated by reference into this Registration Statement, a prospectus that meets the requirements of Section 10(a) of the Securities Act.

## Item 2. Registrant Information and Employee Plan Annual Information

The Company will furnish without charge to each person to whom the prospectus is delivered, upon the written or oral request of such person, a copy of any and all of the documents incorporated by reference in Item 3 of Part II of this Registration Statement and incorporated by reference in the Section 10(a) prospectus, other than exhibits to such documents (unless such exhibits are specifically incorporated by reference to the information that is incorporated). Written requests should be made to Investor Relations of Lantern Pharma Inc. at 1920 McKinney Avenue, 7th Floor, Dallas, Texas 75201; telephone number (972) 277-1136 or to the email address at info@lanternpharma.com.

## PART II

### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

#### Item 3. Incorporation of Certain Documents by Reference

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

- (a) The Company's Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2023, which was filed on March 18, 2024;
- (b) The Company's Quarterly Report on [Form 10-Q](#) for the quarter ended March 31, 2024, which was filed on May 9, 2024;
- (c) The description of the Company's common stock in its Form [8-A12B](#), which was filed on June 8, 2020, and any amendments or reports filed for the purpose of updating this description; and
- (d) All reports and other documents subsequently filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended, prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold.

#### Item 4. Description of Securities

Not applicable.

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#### Item 5. Interests of Named Experts and Counsel

The validity of the issuance of the shares of the Company's common stock offered by this Registration Statement has been passed upon by Greenberg Traurig, LLP, Irvine, California.

#### Item 6. Indemnification of Directors and Officers

The Company's certificate of incorporation and bylaws provides that the Company's directors and officers will be indemnified by us to the fullest extent permitted by the Delaware law against all expenses incurred in connection with their service for or on behalf of the Company.

In addition, the Company's certificate of incorporation provides that the personal liability of the Company's directors and officers for monetary damages will be eliminated to the fullest extent permitted by Delaware law.

The Company has entered into indemnification agreements with the members of the Company's board of directors and officers, each an "indemnitee." Each indemnification agreement requires the Company to indemnify each indemnitee as described above. The Company also, among other things, agreed to advance costs and expenses subject to the condition that an indemnitee will reimburse the indemnitor for all amounts paid if a final judicial determination is made that the indemnitee is not entitled to be so indemnified under applicable law.

The indemnification provisions in the Company's certificate of incorporation and bylaws and the indemnification agreements may be sufficiently broad to permit indemnification of the Company's directors and officers for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

The Company has procured directors' and officers' liability insurance.

#### Item 7. Exemption from Registration Claimed

Not applicable.

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#### Item 8. Exhibits.

<u>Exhibit No.</u>	<u>Description of Exhibits</u>	
<u>Exhibit No.</u>	<u>Description</u>	<u>Method of Filing</u>
3.1	<a href="#">Amended and Restated Certificate of Incorporation of the Registrant</a>	Incorporated by reference from the Registrant's Current Report on Form 8-K filed on June 17, 2020
3.2	<a href="#">Bylaws of the Registrant</a>	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed April 16, 2020
4.1	<a href="#">Specimen Certificate representing shares of common stock of Registrant</a>	Incorporated by reference from the Registrant's Registration Statement on Form S-1/A filed May 12, 2020
5.1	<a href="#">Opinion and Consent of Greenberg Traurig, LLP</a>	Filed electronically herewith

10.1	<a href="#">Second Amended and Restated Lantern Pharma Inc. 2018 Equity Incentive Plan</a>	Incorporated by reference from the Registrant's Annual Report on Form 10-K filed on March 20, 2023
10.2	<a href="#">Amendment to Second Amended and Restated Lantern Pharma Inc. 2018 Equity Incentive Plan</a>	Incorporated by reference from the Registrant's Definitive Proxy Statement filed on April 28, 2023
23.1	<a href="#">Consent of EisnerAmper LLP, independent registered public accounting firm</a>	Filed electronically herewith
23.2	<a href="#">Consent of Greenberg Traurig, LLP</a>	Included in Exhibit 5.1
24.1	<a href="#">Power of Attorney</a>	Included on the signature page to this registration statement
107	<a href="#">Filing Fee Table</a>	Filed electronically herewith

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**Item 9. Undertakings.**

(a) 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, as amended (the "Securities Act").
- (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) under the Securities Act if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.
- (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 (a)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act, 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.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") (and where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) 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.

(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act, and is therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the 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, the 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 and will be governed by the final adjudication of such issue.

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**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 of 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 Dallas, Texas on May 24, 2024.

LANTERN PHARMA INC.

By:           /s/ Panna Sharma            
Panna Sharma,  
Chief Executive Officer

**POWER OF ATTORNEY**

Each person whose signature appears below hereby constitutes and appoints Panna Sharma and David R. Margrave, and each of them, as such person's true and lawful attorney-in-fact and agent, each with full powers of substitution and re-substitution, for such person and in such person's name, place and stead, in any and all capacities, to sign any or 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 Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing

requisite or necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or his or her substitute or substitutes, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed on May 24, 2024 by the following persons in the capacities indicated.

<b>Signature</b>	<b>Title</b>
<u>/s/ Panna Sharma</u> Panna Sharma	President, Chief Executive Officer and Director (Principal Executive Officer)
<u>/s/ David R. Margrave</u> David R. Margrave	Chief Financial Officer (Principal Financial and Accounting Officer)
<u>/s/ Donald J. Keyser</u> Donald J. Keyser	Chairman of the Board
<u>/s/ Maria Maccicchini</u> Maria Maccicchini	Director
<u>/s/ David S. Silberstein</u> David S. Silberstein	Director
<u>/s/ Vijay Chandru</u> Vijay Chandru	Director

**GREENBERG TRAURIG, LLP**  
**18565 Jamboree Road, Suite 500**  
**Irvine, CA 92612**

May 24, 2024

Lantern Pharma Inc.  
1920 McKinney Avenue, 7th Floor  
Dallas, Texas 75201

**Re: Registration Statement on Form S-8**

Ladies and Gentlemen:

We have acted as counsel to Lantern Pharma Inc. (the "Company") in connection with its Registration Statement on Form S-8, as may be amended and supplemented from time to time (the "Registration Statement"), filed with the Securities and Exchange Commission under the Securities Act of 1933, as amended, in connection with the registration by the Company of 1,864,680 shares (the "Shares") of common stock, \$0.0001 par value per share (the "Common Stock"), of the Company issuable under the Company's Second Amended and Restated 2018 Equity Incentive Plan, as amended ("Plan").

For purposes of rendering this opinion, we have examined originals or copies of such documents and records as we have deemed appropriate. In conducting such examination, we have assumed the genuineness of all signatures and the authenticity of all documents submitted to us as originals and conformity to original documents of all documents submitted to us as copies.

Based upon and subject to the foregoing and the effect, if any, of the matters discussed below, after having given due regard to such issues of law as we deemed relevant, we are of the opinion that the Shares, when issued, delivered and paid for in accordance with the Plan, including all required stockholder approvals, and the terms of the individual option agreements and stock agreements, as applicable, will be legally issued, fully paid and non-assessable.

We are furnishing this opinion to the Company solely in connection with the Registration Statement. This opinion may not be relied on by, nor copies delivered to, any other person or entity without our prior written consent. Notwithstanding the preceding sentence we hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to its use as part of the Registration Statement.

Very truly yours,

/s/ GREENBERG TRAURIG, LLP

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in this Registration Statement of Lantern Pharma Inc. on Form S-8 to be filed on or about May 24, 2024 of our report dated March 18, 2024, on our audits of the consolidated financial statements as of December 31, 2023 and 2022 and for each of the years then ended, which report was included in the Annual Report on Form 10-K filed on March 18, 2024.

/s/ EisnerAmper LLP

EISNERAMPER LLP  
Philadelphia, Pennsylvania  
May 24, 2024

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## Calculation of Filing Fee Tables

Form S-8  
(Form Type)

Lantern Pharma Inc.  
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

	Security Type	Security Class Title	Fee Calculation Rule	Amount Registered (a)	Proposed Maximum Offering Price Per Unit (b)	Maximum Aggregate Offering Price (b)	Fee Rate	Amount of Registration Fee
Fees to Be Paid	Equity	Common stock	457(h)(1)	1,864,680	\$ 5.84	\$ 10,889,732	.0001476	\$ 1,607.33
	<b>Total Offering Amounts</b>					\$ 10,889,732		\$ 1,607.33
	<b>Total Fee Offsets</b>							—
	<b>Net Fee Due</b>							\$ 1,607.33

(a) In accordance with Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement shall be deemed to cover an indeterminate number of additional shares of Common Stock to be offered or issued from stock splits, stock dividends or similar transactions.

(b) Estimated solely for the purpose of calculating the amount of the registration fee and calculated pursuant to Rule 457(h)(1) under the Securities Act.