Registration No. 333-278122

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

PRE-EFFECTIVE AMENDMENT No. 1

to Form S-3 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

THE SECONTIES ACT OF 1755

Mineralys Therapeutics, Inc. (Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

84-1966887

(I.R.S. Employer Identification Number)

150 N. Radnor Chester Road, Suite F200, Radnor, PA 19087

(888) 378-6240

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Jon Congleton Chief Executive Officer Mineralys Therapeutics, Inc. 150 N. Radnor Chester Road, Suite F200 Radnor, PA 19087 (888) 378-6240 pg zin code and telephone number including area

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

Copies to: Jonathan R. Zimmerman Griffin D. Foster Faegre Drinker Biddle & Reath LLP 2200 Wells Fargo Center 90 South Seventh Street Minneapolis, MN 55402 Telephone: (612) 766-7000

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC : From time to time after the effective date of this registration statement.

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 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 thereto 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, 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 | | Accelerated filer | |
|-------------------------|-------------|---------------------------|---|
| Non-accelerated filer | \boxtimes | Smaller reporting company | X |
| | | Emerging growth company | X |

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 Securities Act.

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 the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

Mineralys Therapeutics, Inc. is filing this Pre-Effective Amendment No. 1 (the "Amendment") to its Registration Statement on Form S-3 (Registration No. 333-278122) (the "Registration Statement") solely for the purpose of amending the filing fee information in Part II, Item 14 and Exhibit 107. Accordingly, this Amendment consists only of the facing page, this explanatory note, Part II of the Registration Statement and the signature page to the Registration Statement. The remainder of the Registration Statement, including the prospectus, is unchanged and has been omitted.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following sets forth the anticipated expenses (all of which are to be paid by the registrant) that we may incur in connection with the securities being registered hereby.

| SEC registration fee | \$ 90,699 |
|----------------------------------|--------------|
| FINRA filing fee | 92,673 |
| Printing expenses | (1) |
| Legal fees and expenses | (1) |
| Accounting fees and expenses | (1) |
| Transfer agent fees and expenses | (1) |
| Trustee fees and expenses | (1) |
| Miscellaneous | (1) |
| Total | \$ (1) |

(1) These fees are calculated based on the securities offered and the number of issuances and accordingly cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers

Subsection (a) of Section 145 of the DGCL empowers a corporation to indemnify any person who was or is a party or who is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of the corporation, adjust expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person 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 the person's conduct was unlawful.

Subsection (b) of Section 145 empowers a corporation to 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 the person acted in any of the capacities set forth above, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Section 145 further provides that to the extent a director or officer of a corporation has been successful on the merits or otherwise in the defense of any action, suit or proceeding referred to in subsections (a) and (b) of Section 145, or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection therewith; that indemnification provided for by Section 145 shall not be deemed exclusive of any other rights to which the indemnified party may be entitled; and the indemnification provided for by Section 145 shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of such person's heirs, executors and administrators. Section 145 also empowers the corporation to purchase



and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of his status as such, whether or not the corporation would have the power to indemnify such person against such liabilities under Section 145.

Section 102(b)(7) of the DGCL provides that a corporation's certificate of incorporation may contain a provision eliminating or limiting the personal liability of a director or officer to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director or officer, provided that such provision shall not eliminate or limit the liability of (i) a director or officer for any breach of the director's or officer's duty of loyalty to the corporation or its stockholders, (ii) a director or officer for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) a director under Section 174 of the DGCL, (iv) a director or officer for any transaction from which the director or officer derived an improper personal benefit or (v) an officer in any action by or in the right of the corporation.

Any underwriting agreement or distribution agreement that the registrant enters into with any underwriters or agents involved in the offering or sale of any securities registered hereby may require such underwriters or dealers to indemnify the registrant, some or all of its directors and officers and its controlling persons, if any, for specified liabilities, which may include liabilities under the Securities Act.

We have entered into indemnification agreements with each of our directors and officers. These indemnification agreements may require us, among other things, to indemnify our directors and officers for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or officer in any action or proceeding arising out of his or her service as one of our directors or officers, or any of our subsidiaries or any other company or enterprise to which the person provides services at our request.

The indemnification rights set forth above shall not be exclusive of any other right which an indemnified person may have or hereafter acquire under any statute, our certificate of incorporation, our bylaws, any agreement, any vote of stockholders or disinterested directors or otherwise.

We maintain a general liability insurance policy that covers certain liabilities of directors and officers of our corporation arising out of claims based on acts or omissions in their capacities as directors or officers.

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Item 16. Exhibits

EXHIBIT INDEX

| Exhibit | | | Incorporated by Reference | | |
|---------|--|-------|---------------------------|--------|-----------------------|
| Number | Exhibit Description | Form | Date | Number | Filed Herewith |
| 1.1* | Form of Underwriting Agreement | | | | |
| 1.2*** | ATM Equity Offering Sales Agreement, dated as of March 21, 2024, by and among Mineralys Therapeutics, Inc., BofA Securities, Inc. and Evercore Group L.L.C. | | | | |
| 3.1 | Amended and Restated Certificate of Incorporation | 8-K | 2/14/23 | 3.1 | |
| 3.2 | Amended and Restated Bylaws | 8-K | 2/14/23 | 3.2 | |
| 4.1 | Specimen stock certificate evidencing the shares of common stock | S-1/A | 2/2/23 | 4.1 | |
| 4.2* | Form of Specimen Certificate Representing Preferred Stock | | | | |
| 4.3*** | Form of Indenture | | | | |
| 4.4* | Form of Debt Security | | | | |
| 4.5* | Form of Warrant | | | | |
| 4.6* | Form of Warrant Agreement | | | | |
| 4.7* | Form of Unit Agreement | | | | |
| 5.1*** | Opinion of Faegre Drinker Biddle & Reath LLP | | | | |
| 23.1*** | Consent of Faegre Drinker Biddle & Reath LLP (included in Exhibit 5.1) | | | | |
| 23.2*** | Consent of Ernst & Young LLP, independent registered public accounting firm | | | | |
| 24.1*** | Powers of Attorney (incorporated by reference to the signature page) | | | | |
| 25.1** | Statement of Eligibility on Form T-1 under the Trust Indenture Act of 1939, as amended, of Debt Trustee as trustee under the indenture filed as Exhibit 4.3 above (to be filed prior to any issuance of Debt Securities) | | | | |
| 107 | Filing Fee Table | | | | х |
| | | | | | |

* To be filed by amendment or incorporated by reference in connection with an offering of the securities.

** To be filed in accordance with the requirements of Section 305(b)(2) of the Trust Indenture Act of 1939, as amended.

*** Previously filed.

Item 17. 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;
 - (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 (a)(1)(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 a 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.
- (5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:
 - (A) Each prospectus filed by the 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 that prospectus relates, and the offering of such securities at that is part of the registration statement or made in a document incorporated or deemed in 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 prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was made in any such document immediately prior to such effective date.
- (6) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities:

The undersigned registrant undertakes that in a primary offering of securities of the 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 the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communications that is an offer in the offering made by the undersigned registrant to the purchaser.
- (b) The undersigned registrant hereby undertakes 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 Section 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.
- (h) Insofar as indemnification for liabilities arising under the Securities Act of 1933 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 Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of 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 Act and will be governed by the final adjudication of such issue.
- (j) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Act.



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 pre-effective amendment No. 1 to the registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Radnor, Commonwealth of Pennsylvania, on March 29, 2024.

Mineralys Therapeutics, Inc.

By: /s/ Jon Congleton

Jon Congleton Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this pre-effective amendment No. 1 to the registration statement has been signed by the following persons in the capacities and on the dates indicated.

| Signature | Title | Date | | |
|---|---|----------------------------------|--|--|
| /s/ Jon Congleton Jon Congleton | Chief Executive Officer (principal executive officer) | March 29, 2024 | | |
| /s/ Adam Levy Adam Levy | Chief Financial Officer and Secretary (principal financial and accounting officer) | March 29, 2024 | | |
| * Brian Taylor Slingsby, M.D., Ph.D., M.P.H. | Executive Chairman | March 29, 2024 | | |
| * Srinivas Akkaraju, M.D., Ph.D. | Director | March 29, 2024 March 29, 2024 | | |
| * Alexander Asam, Ph.D. | — Director | | | |
| * Derek DiRocco, Ph.D. | — Director | March 29, 2024 | | |
| * Olivier Litzka, Ph.D. | — Director | March 29, 2024 | | |
| * | — Director | March 29, 2024 | | |
| Daphne Karydas * | — Director | March 29, 2024 | | |

Adam Levy Attorney-in-Fact

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Calculation of Filing Fee Tables

FORM S-3 (Form Type)

Mineralys Therapeutics, Inc.

(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered and Carry Forward Securities

| | Security Type | Security Class Title | Fee Calculation or Carry Forward Rule | Amount Registered (1) | Proposed Maximum Offering Price Per Unit | Maximum Aggregate Offering Price | Fee Rate | Amount of Registration Fee |
|----------------------------|--|---|---|-----------------------------|--|---|--------------|----------------------------------|
| Fees Previously Paid | Equity Debt Other Unallocated (Universal) Shelf | Common Stock, par value \$0.0001 per share Preferred Stock, par value \$0.0001 per share Debt Securities Warrants Units | 457(o) | (2) | N/A | \$500,000,000 | 0.00014760 | \$73,800 |
| Fees to Be Paid | Equity | Common Stock, par value \$0.0001 per share | 457(c) | 8,888,924 (3) | \$12.88 (4) | \$114,489,341 (4) | 0.00014760 | \$16,899 |
| | | | | | | | | |
| | Total Offering Amounts | | | | 614,489,341 | | \$90,699 | |
| | Total Fees Previously Paid | | | | | | \$73,800 (5) | |
| | Total Fee Offsets | | | | | | - | |
| | Net Fee Due | | | | | | \$16,899 | |

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

(2) There are being registered hereunder such indeterminate number of shares of common stock, such indeterminate number of shares of preferred stock, such indeterminate principal amount of debt securities, such indeterminate number of warrants to purchase common stock, preferred stock or debt securities, and such indeterminate number of units as shall have an aggregate initial offering price not to exceed \$500,000,000. Any securities registered hereunder may be sold separately or in combination with the other securities registered hereunder.

(3) Shares to be offering for sale by selling stockholders.

(4) The proposed maximum offering price per share and in the aggregate are based on the average of the high and low sale prices of the registrant's common stock, as reported on The Nasdaq Global Select Market on March 22, 2024, which date is within five business days prior to filing this registration statement.

(5) The registrant previously paid registration fees of \$73,800 in connection with the initial filing of this registration statement on March 21, 2024.