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

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934

Filed by the Registrant \boxtimes Filed by a Party other than the Registrant \square

Check the appropriate box:

Preliminary Proxy Statement

□ Confidential, For Use of the Commission Only (as permitted by Rule 14a-6(e)(2))

Definitive Proxy Statement

☑ Definitive Additional Materials

□ Soliciting Material Pursuant to §240.14a-12

ENZON PHARMACEUTICALS, INC.

(Name of Registrant as Specified in its Charter)

N/A

(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

Payment of Filing Fee (Check all boxes that apply):

 \boxtimes No fee required.

□ Fee paid previously with preliminary materials.

□ Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a-6(i)(1) and 0-11.

You May Vote Your Proxy When You View The Material On The Internet. You Will Be Asked To Follow The Prompts To Vote Your Shares.

ENZON PHARMACEUTICALS, INC. c/o Continental Proxy Services 1 State Street, New York, NY 10004 Enzon Pharmaceuticals, Inc. 20 Commerce Drive, Suite 135 Cranford, New Jersey 07016

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS to be held on Thursday, June 9, 2022

*Stockholders are cordially invited to participate in the Virtual 2022 Annual Meeting and vote during the meeting.

Dear Stockholder,

The 2022 Annual Meeting of Stockholders (the "2022 Annual Meeting") of Enzon Pharmaceuticals, Inc. (the "Company") will be held on Thursday, June 9, 2022 at 11:00 a.m., Eastern time. The annual meeting will be a completely "virtual" meeting of stockholders. You will be able to listen and participate in the virtual annual meeting as well as vote and submit your questions during the live webcast of the meeting by visiting <u>https://www.cstproxy.com/enzon/2022</u> and entering the 12-digit control number included in this Notice Regarding the Availability of Proxy Materials, on your proxy card or in the instructions that accompanied your proxy materials.

Proposals to be considered at the 2022 Annual Meeting:

- to elect three (3) directors, each for a one-year term expiring at the Company's next annual meeting of stockholders and until such director's successor is elected and qualified;
- to ratify the appointment of EisnerAmper LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2022;
- (3) to approve, on an advisory basis, the compensation of the Company's named executive officers; and
- (4) to transact such other matters as may properly come before the 2022 Annual Meeting or any adjournment or postponement thereof.

The Company's Board of Directors has proposed and recommends that stockholders vote "FOR" each of the nominees to the Board of Directors listed in Proposal No. 1 and "FOR" Proposals Nos. 2 and 3.

Your electronic vote authorizes the named proxies to vote your shares in the same manner as if you marked, signed, dated, and returned the proxy card.

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Vote during the Meeting -

If you plan to attend the virtual online annual meeting, you will need your 12 digit control number to vote electronically during the annual meeting. To attend the annual meeting, visit: https://www.cstproxy.com/enzon/2022

The Proxy Materials are available for review at: <u>https://www.cstproxy.com/enzon/2022</u>

Vote Your Proxy on the Internet:

Go to http://www.cstproxyvote.com Have your notice available when you access the above website. Follow the prompts to vote your shares.

CONTROL NUMBER

ENZON PHARMACEUTICALS, INC.

20 Commerce Drive, Suite 135 Cranford, New Jersey 07016

Important Notice Regarding the Availability of Proxy Materials For the 2022 Stockholder Meeting to Be Held On Thursday, June 9, 2022

This communication presents only an overview of the more complete proxy materials that are available to you on the Internet. We encourage you to access and review all of the important information contained in the proxy materials before voting.

If you would like to receive a paper or e-mail copy of these documents, **you must request one**. There is no charge for such documents to be mailed to you. Please make your request for a copy as instructed below on or before May 26, 2022 to facilitate a timely delivery.

The following Proxy Materials for the 2022 Annual Meeting are available to you to review at: https://www.cstproxy.com/enzon/2022

- the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021;
- the Company's Proxy Statement for the 2022 Annual Meeting;
- the Proxy Card for the 2022 Annual Meeting; and
- any amendments to the foregoing materials that are required to be furnished to stockholders.

You may contact the Company at (732) 980-4500 or through an e-mail request to investor@enzon.com for information on how to access the virtual 2022 Annual Meeting.

ACCESSING YOUR PROXY MATERIALS ONLINE

Have this notice available when you request a paper or email copy of the proxy materials or to vote your proxy electronically. You must reference your control number.

REQUESTING A PAPER OR EMAIL COPY OF THE PROXY MATERIALS

By telephone please call 1-888-221-0691, or

By logging on to https://www.cstproxy.com/enzon/2022

or

By email at: proxy@continentalstock.com

Please include the company name and your control number in the subject line.