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 \Box

Check the appropriate box:

- Preliminary Proxy Statement
- \Box Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
- □ Definitive Proxy Statement
- Definitive Additional Materials
- □ Soliciting Material under §240.14a-12

AeroClean Technologies, 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):

- ☑ No fee required
- \Box 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

EXPLANATORY NOTE

This supplement (the "Supplement") amends the definitive proxy statement and proxy card of AeroClean Technologies, Inc. (the "Company," "we," "us" or "our") filed with the Securities and Exchange Commission on June 10, 2022 (the "Proxy Statement"). The Proxy Statement was filed in connection with the Company's 2022 Annual Meeting of Stockholders, which is scheduled to be held on July 12, 2022 (the "Annual Meeting").

This Supplement is being filed to add a new proposal for consideration at the Annual Meeting: Proposal No. 4, asking our stockholders to approve, for purposes of complying with Listing Rule 5635(d) of The Nasdaq Stock Market LLC, the sale in a private placement of units comprised of (i) 1,500,000 shares of the Company's common stock, par value \$0.01, and (ii) warrants exercisable into 1,500,000 shares of the Company's common stock at an exercise price of \$11.00 per share, with such units being sold for \$10.00 per unit.

The changes to the Proxy Statement as reflected in this Supplement reflect such updates and other related and conforming changes relating to the addition of the share issuance proposal as new Proposal No. 4. No attempt has been made in this Supplement to otherwise modify or update disclosures presented in the Proxy Statement. This Supplement does not otherwise reflect events occurring after the filing of the Proxy Statement or modify or update disclosures affected by subsequent events.

AeroClean

To the Stockholders of AeroClean Technologies, Inc.:

The Board of Directors of AeroClean Technologies, Inc. (the "Company," "we," "us" or "our"), has determined to recommend an additional proposal for approval by stockholders at the Company's 2022 Annual Meeting of Stockholders (the "Annual Meeting") to be held virtually on July 12, 2022 at 4:30pm Eastern Time.

The additional proposal to be presented at the Annual Meeting is Proposal No. 4 asking our stockholders to approve, for purposes of complying with Listing Rule 5635(d) of The Nasdaq Stock Market LLC, the sale in a private placement of units comprised of (i) 1,500,000 shares of the Company's common stock, par value \$0.01, and (ii) warrants exercisable into 1,500,000 shares of the Company's common stock at an exercise price of \$11.00 per share, with such units being sold for \$10.00 per unit.

Because this proposal was not described in our definitive proxy statement, filed with the Securities and Exchange Commission on June 10, 2022 (the "Proxy Statement"), we are providing additional information in the enclosed supplement to the Proxy Statement (the "Supplement") and an amended proxy card or voting instruction form to allow our stockholders to vote on this additional proposal. An Amended Notice of Annual Meeting is being delivered with the Supplement.

Certain of the Company's stockholders representing approximately 65% of the voting power of the Company's total outstanding common stock as of May 23, 2022, the record date for the Annual Meeting (the "Majority Stockholders"), entered into a voting support agreement, pursuant to which the Majority Stockholders committed to vote their respective shares of the Company's common stock in favor of Proposal No. 4. The affirmative vote of a majority in voting power of the shares present in person or by proxy at the meeting and entitled to vote thereon is required to approve Proposal No. 4. As a result, the affirmative vote of the Majority Stockholders is sufficient to approve Proposal No. 4 at the Annual Meeting, regardless of how other stockholders vote. Please see "Proposal 4: Approval of the Private Placement — Background" of the Supplement for more information.

In order to vote on the new proposal, you can vote by telephone or Internet by following the instructions on the enclosed revised proxy card or voting instruction form. Alternatively, you may complete, sign, date and return the enclosed revised proxy card at your earliest convenience. If you hold your shares through a broker, bank or other nominee, please complete and return the voting instruction form that you receive from them or follow the telephone or Internet voting instructions provided on the form. We request that you vote on all of the proposals presented when voting. The receipt of your new proxy or voting instructions will revoke and supersede any proxy or voting instructions previously submitted by you.

Please read each of the Proxy Statement that was previously made available to you and the enclosed Supplement in their entirety, as together they contain information that is important to your decisions in voting at the Annual Meeting.

Sincerely yours,

Amin J. Khoury, PhD (Hon) Chairman of the Board of Directors



AMENDED NOTICE OF THE 2022 ANNUAL MEETING OF STOCKHOLDERS

July 7, 2022

Meeting Information:

Date and Time: Tuesday, July 12, 2022 4:30pm Eastern Time

Location:

www.meetnow.global/MFHV4PU

Proposals:

- 1. Election of six directors;
- 2. Amendment to the Company's 2021 Incentive Award Plan;
- 3. Ratification of the appointment of Citrin Cooperman & Company, LLP to serve as Independent Auditor for 2022;
- 4. Approving, for purposes of complying with Listing Rule 5635(d) of The Nasdaq Stock Market LLC ("Listing Rule 5635(d)"), the sale in a private placement of units comprised of (i) 1,500,000 shares of the Company's common stock, par value \$0.01, and (ii) warrants exercisable into 1,500,000 shares of the Company's common stock at an exercise price of \$11.00 per share, with such units being sold for \$10.00 per unit (the "Private Placement"); and
- 5. Other business, if properly raised.

The AeroClean Technologies, Inc. (the "Company") Board of Directors unanimously recommends that the stockholders vote: "**FOR**" the proposal to elect the six director nominees, "**FOR**" the amendment to the Company's 2021 Incentive Award Plan, "**FOR**" the ratification of the appointment of Citrin Cooperman & Company, LLP to serve as independent auditor of the Company and "**FOR**" the proposal to approve, for purposes of comply with Listing Rule 5635(d), the Private Placement.

You will be able to attend the annual meeting online, vote your shares electronically and submit questions online during the meeting by logging into the website listed above using the 15-digit control number included on your revised proxy or voting instruction card or any additional instructions accompanying these proxy materials.

Who may vote: If you owned shares of the Company's common stock at the close of business on May 23, 2022, you are entitled to receive this amended notice of the meeting and to vote at the meeting either in person by attending the meeting virtually or by proxy.

We previously mailed the proxy materials relating to the Company's 2022 Annual Meeting on or around June 10, 2022. The supplement (the "Supplement") to the Company's definitive proxy statement filed with the Securities and Exchange Commission on June 10, 2022 (the "Proxy Statement") and this Amended Notice of 2022 Annual Meeting of Stockholders (the "Amended Notice") are being mailed on or around July 7, 2022.

YOUR VOTE IS VERY IMPORTANT. PLEASE SUBMIT YOUR REVISED PROXY OR VOTING INSTRUCTIONS AS SOON AS POSSIBLE, WHETHER OR NOT YOU PLAN TO ATTEND THE MEETING.

Most stockholders have a choice of voting over the Internet, by telephone or by using a traditional proxy card. Detailed instructions on how to vote on the Internet or by telephone may be found in the Proxy

Statement on page 1. If you choose to vote by mail, you may use the postage-paid, pre-addressed envelope provided in the materials.

A proxy may be revoked by a stockholder at any time before it is voted (i) by returning to the Company another properly signed proxy bearing a later date, (ii) by delivering a written revocation to the Secretary of the Company or (iii) by attending the virtual meeting and voting the shares represented by the proxy online. Shares represented by the enclosed revised form of proxy properly executed and returned or submitted over the telephone or on the Internet, and not revoked, will be voted at the meeting by the persons named as proxies.

In the absence of contrary instructions, the persons named as proxies will vote in accordance with the intentions stated below. The holders of record of shares of the Company's common stock as of the close of business on May 23, 2022 are entitled to receive notice of and vote at the meeting. As of May 23, 2022, the Company had 13,877,636 shares of common stock issued and outstanding.

Consistent with Delaware state law and the Company's bylaws, a majority of the votes entitled to be cast present in person or represented by proxy constitutes a quorum as to such matter. Votes cast by proxy or online at the virtual meeting will be counted by the person appointed by the Company to act as inspector of election for the meeting. The six nominees for election as directors at the meeting who receive the greatest number of votes properly cast for the election of directors, Proposal No. 1, shall be elected directors.

The affirmative vote of a majority of the votes in attendance at the meeting (at which a quorum is present), online at the virtual meeting or represented by proxy, that are properly cast, is necessary to approve the actions described in Proposal Nos. 2, 3 and 4.

The inspector of election will count the total number of votes cast "for" the nominee for election as a director or "for" approval of Proposal Nos. 2, 3 and 4 for purposes of determining whether sufficient affirmative votes have been cast for each such proposal. The inspector of election will count shares (i) represented by proxies that withhold authority to vote either for the nominees for election as a director or against Proposal Nos. 2, 3 and 4 or (ii) that reflect abstentions and "broker non-votes" as shares that are present and entitled to vote on the matter for purposes of determining the presence of a quorum. "Withhold" votes and "broker non-votes" will not have any effect on the outcome of voting on the election of directors. Abstentions will have the same effect as a vote "against" Proposal Nos. 2, 3 and 4. "Broker non-votes" will not have any effect on the outcome of voting on the election of directors. Abstentions will have the same effect as a vote "against" Proposal Nos. 2, 3 and 4. "Broker non-votes" will not have any effect on the outcome of voting on the election of directors. Abstentions will have the same effect as a vote "against" Proposal Nos. 2, 3 and 4. "Broker non-votes" are shares represented at the meeting held by brokers or nominees as to which (i) instructions have not been received from the beneficial owner or persons entitled to vote and (ii) the broker or nominee does not have the discretionary voting power on a particular matter.

By order of the Board of Directors.

Amin J. Khoury, PhD (Hon) Chairman of the Board of Directors

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDER MEETING TO BE HELD ON JULY 12, 2022.

The enclosed Supplement and this Amended Notice are being mailed on or about July 7, 2022. This Amended Notice, the Supplement, the Proxy Statement and our 2021 Annual Report on Form 10-K are available free of charge at www.aeroclean.com/investors.

SUPPLEMENT TO PROXY STATEMENT FOR AEROCLEAN TECHNOLOGIES, INC. 2022 ANNUAL MEETING OF STOCKHOLDERS

To be held on July 12, 2022

This supplement (this "Supplement") supplements and amends the definitive proxy statement (the "Proxy Statement") of AeroClean Technologies, Inc. (the "Company," "we," "us" or "our") made available to the Company's stockholders in connection with the solicitation of proxies for use at the Company's 2022 Annual Meeting of Stockholders (the "Annual Meeting") to be held virtually on July 12, 2022 at 4:30pm Eastern Time, or at any adjournments or postponements thereof, for the purposes set forth in the accompanying Amended Notice of Annual Meeting.

On or around June 10, 2022, the Proxy Statement, the Company's 2021 Annual Report on Form 10-K and related materials were mailed to the holders of record of the Company's common stock as of the close of business on May 23, 2022.

This Supplement is being furnished to provide information related to an additional proposal, Proposal No. 4 that the Board of Directors has recommended for stockholder approval at the Annual Meeting.

The revised proxy card or voting instruction form enclosed with this Supplement differs from the proxy card or voting instruction form previously furnished to you with the Proxy Statement, in that the revised proxy card or voting instruction form includes Proposal No. 4. You may vote on all four proposals by submitting the revised proxy card or voting instruction form enclosed with this Supplement or submitting a proxy by telephone or Internet by following the procedures on your revised proxy card or voting instruction form. The receipt of your new proxy or voting instructions will revoke and supersede any proxy or voting instructions, your previously submitted. If you have already voted and do not submit new voting instructions, your previously submitted proxy or voting instructions will be voted at the Annual Meeting with respect to all other proposals but will not be voted on the newly added Proposal No. 4.

Except for the addition of Proposal No. 4 and related changes, this Supplement does not modify, amend, supplement or otherwise affect any matter presented for consideration in the Proxy Statement. Capitalized terms used in this Supplement and not otherwise defined have the meanings given to them in the Proxy Statement.

THIS SUPPLEMENT DOES NOT PROVIDE ALL OF THE INFORMATION THAT IS IMPORTANT TO YOUR DECISIONS IN VOTING AT THE ANNUAL MEETING. THIS SUPPLEMENT SHOULD BE READ IN CONJUNCTION WITH THE PROXY STATEMENT, WHICH CONTAINS IMPORTANT ADDITIONAL INFORMATION.

This Supplement is being filed with the Securities and Exchange Commission and being mailed to stockholders on or about July 7, 2022.

We are seeking stockholder approval, for purposes of complying with Listing Rule 5635(d) of The Nasdaq Stock Market LLC ("Listing Rule 5635(d)"), for the sale in a private placement of units comprised of (i) 1,500,000 shares of the Company's common stock, par value \$0.01 (the "Private Placement Shares"), and (ii) warrants exercisable into 1,500,000 shares of the Company's common stock at an exercise price of \$11.00 per share (the "Warrants"), with such units being sold for \$10.00 per unit (the "Private Placement").

The information set forth in this Proposal No. 4 is qualified in its entirety by reference to the full text of the form of SPA, form of RRA, the form of VSA (each as defined below) and the Form of Common Stock Purchase Warrant attached as exhibits 10.1, 10.2, 10.3 and 4.1, respectively, to our Current Report on Form 8-K filed with the SEC on June 30, 2022. Stockholders are urged to carefully read these documents.

Background

On June 26, 2022, we entered into (i) a securities purchase agreement (the "SPA") with Armistice Capital Master Fund Ltd. ("Armistice") pursuant to which Armistice agreed to purchase the Private Placement Shares and the Warrants for an aggregate purchase price of \$15 million and (ii) a registration rights agreement with Armistice (the "RRA"), pursuant to which the Company will file a registration statement covering the Private Placement Shares and the shares of common stock underlying the Warrants within 15 days of the date of execution of the RRA (the "Registration Statement"). The Private Placement closed on June 29, 2022.

The Warrants will become exercisable upon the earlier of (i) effective date of the Registration Statement and (ii) 90 days from the closing of the Private Placement, into shares of the Company's common stock at an exercise price of \$11.00 per share for a term of five years from the date the Warrants become exercisable. Exercise of the Warrants is subject to a condition that the Company shall not effect any exercise if after giving effect to such exercise Armistice would beneficially own in excess of 4.99% of the total outstanding shares of the Company's common stock.

The SPA contains a provision providing that, until the Company obtains stockholder approval for the Private Placement, the Warrants cannot be exercised into shares that, taken together with the shares previously issued pursuant to the Private Placement, aggregate to more than 19.9% of the Company's total outstanding shares of common stock or of the total voting power of the Company's securities as of June 26, 2022, the date of execution of the SPA.

On June 26, 2022, Amin J. Khoury PhD (Hon), Lewis C. Pell, David Helfet M.D. and Dateline TV Holdings, Inc. (the "Majority Stockholders"), representing approximately 65% of the voting power of the Company's outstanding shares of common stock as of May 23, 2022, entered into a voting support agreement (the "VSA") pursuant to which the Majority Stockholders committed to attending the Annual Meeting or otherwise causing their respective shares of the Company's common stock (the "Covered Shares") to be counted as present at the Annual Meeting for the purpose of establishing a quorum and further committed to voting or causing their respective Covered Shares to be voted in favor of this Proposal No. 4.

The Company gained U.S. Food and Drug Administration clearance to market and sell its Pūrgo device as a Class II Medical Device on June 1, 2022. The Company's strategy includes continuously evaluating a wide range of strategic opportunities including acquisitions. As part of that strategy, the Company is in discussions with several acquisition candidates and may use the proceeds of the Private Placement together with other sources of capital to effect transactions that the Company believes would substantially increase revenues, distribution and selling capability, and expand product lines, and, most importantly, add sensor and monitoring technology to enable the Company to effect its recurring revenue "Safe Air As a Service" model. The Company's goal is to provide actionable data to clients through the internet of things to enable clients to provide Indoor Air Quality as part of their Indoor Environmental Quality initiatives. The Company currently has no material agreements or arrangements with any of the several acquisition candidates and there can be no assurance that any of these acquisitions, or any others, will be consummated.

Nasdaq Stockholder Approval Requirement

Listing Rule 5635(d) requires stockholder approval in connection with a transaction, other than a public offering, involving the sale or issuance by the issuer of common stock (or securities convertible into or exchangeable for common stock) equal to 20% or more of the common stock or 20% or more of the voting power of such company outstanding before the issuance for a price that is less than the lower of: (i) the closing price of the common stock immediately preceding the signing of the binding agreement for the issuance of such securities and (ii) the average closing price of the common stock for the five trading days immediately preceding the signing of the binding agreement for the issuance of such securities.

Pursuant to the terms of the SPA, unless and until the Company's stockholders approve the Private Placement, the Warrants cannot be exercised into shares that, taken together with the shares previously issued pursuant to the Private Placement, aggregate to more than 19.9% of the Company's total outstanding shares of common stock or of the total voting power of the Company's securities as of June 26, 2022, the date of execution of the SPA. Based on 13,877,636 shares of the Company's common stock outstanding on June 26, 2022, taken together with the Private Placement Shares, Armistice could exercise Warrants issuable into approximately 1,261,650 shares of the Company's common stock before exceeding 19.9%. This calculation does not take into consideration the provision in the Warrants providing that the Company shall not effect any exercise of the Warrants that would, after giving effect to such exercise, result in Armistice beneficially owning greater than 4.99% of the Company's total outstanding common stock.

Required Vote of Stockholders

The affirmative vote of a majority in voting power of the shares present in person or by proxy at the Annual Meeting and entitled to vote thereon is required to approve the Private Placement. As a result, the affirmative vote of the Majority Stockholders pursuant to the VSA is sufficient to approve Proposal No. 4 at the Annual Meeting, regardless of how other stockholders vote.

THE BOARD OF DIRECTORS RECOMMENDS THAT YOU VOTE "FOR" THE PRIVATE PLACEMENT.



Your vote matters - here's how to vote!

You may vote online or by phone instead of mailing this card.

		rou may i	ore online of by phone instead o	i maning this cara.
			Online Go to www.investorvote.com// the QR code – login details ar the shaded bar below.	
			Phone Call toll free 1-800-652-VOTE (the USA, US territories and Ca	
Using a <u>black ink</u> pen, mark your voles with an X as shown in this example. Please do not write outside the designated areas.	X	\bigcirc	Save paper, time and mo Sign up for electronic de www.investorvote.com/A	livery at
2022 Annual Meeting Proxy Card				\bigcirc
▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼				
A Proposals – The Board of Directors recommend a vote FOR all the nominees listed and FOR Proposals 2, 3 and 4.				
1. To elect the nominees listed below for a term to expire at the 2023 Annual Meeting of the Stockholders and until his or her successor is duly elected and qualified:				
For Withhold		For Withhold	For	Withhold
01 - Amin J. Khoury 02	- David Helfet	03 - M	lichael Senft	
04 - Thomas P. McCaffrey 05	- Heather Floyd	06 - т	imothy Scannell	
 To approve the amendment to the AeroClean Technologies, Inc. 2021 Incentive Award Plan to increase the total number of shares reserved for issuance thereunder 	For Against Abstain	3. To ratify the appointment of C to serve as the independent re for AeroClean Technologies, In December, 31, 2022.	gistered public accounting firm	
Note: In their discretion, the proxies are authorized to vote upon such other business as may properly come before the Annual Meeting or any and all adjournments and postponements thereof.		 To approve, pursuant to Listing Stock Market LLC, the issuance AeroClean Technologies, Inc. o stock and warrants to purchas 	g Rule 5635(d) of The Nasdaq e in a private placement by f certain shares of common	
B Authorized Signatures — This section must be completed for your vote to count. Please date and sign below.				
Please sign exactly as name(s) appears hereon. Joint owners shoul full title.	d each sign. When signing as	attorney, executor, administrator,	corporate officer, trustee, guardian, or	custodian, please give
Date (mm/dd/yyyy) – Please print date below.	Signature 1 – Please keep s	signature within the box.	Signature 2 – Please keep signature	within the box.
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The 2022 Annual Meeting of Stockholders of AeroClean Technologies, Inc. will be held on Tuesday, July 12, 2022 at 4:30 pm Eastern Time, virtually via the internet at www.meetnow.global/MFHV4PU.

To access the virtual meeting, you must have the information that is printed in the shaded bar located on the reverse side of this form.



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▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

AeroClean Technologies, Inc.

Notice of 2022 Annual Meeting of Stockholders

Proxy Solicited by Board of Directors for Annual Meeting – July 12, 2022

The above signed hereby constitutes and appoints Messrs. Jason DiBona and Ryan Tyler, or either of them, with full power of substitution and power to act alone, proxies to vote and act at the Annual Meeting of Stockholders of AeroClean Technologies, Inc. (the "Company") to be held on July 12, 2022 virtually via the internet at www.meetnow.global/MFHV4PU and at any postponement or adjournment thereof (the "Meeting"), upon and with respect to the number of shares of Company common stock, par value \$0.01 per share, that the above signed would be entitled to vote if personally present. The above signed hereby instructs such proxies, or their substitutes, to vote on those matters appearing on the reverse side of this proxy card as specified by the above signed and in such manner as the proxies may determine in their discretion on any other matter that may come before the Meeting, all as indicated in the accompanying Proxy Statement, receipt of which is hereby acknowledged. All proxies previously given by the above signed in respect of the Meeting are hereby revoked.

Unless otherwise specified in the boxes provided on the reverse side of this proxy card, the Proxy will be voted FOR each of the nominees listed in Proposal 1 and FOR each of Proposals 2, 3 and 4.

In their discretion, the Proxies are authorized to vote upon such other business as may properly come before the Meeting or any and all adjournments and postponements thereof.

(Items to be voted appear on reverse side)

C Non-Voting Items	
Change of Address - Please print new address below.	Comments – Please print your comments below.
	+