

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

FORM S-3
**REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

MOLEKULE GROUP, INC.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

45-3213164
(I.R.S. Employer
Identification Number)

**10455 Riverside Drive
Palm Beach Gardens, FL 33410
Telephone: (833) 652-5326**
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Jason DiBona
c/o Molekule Group, Inc.
10455 Riverside Drive
Palm Beach Gardens, FL 33410
Telephone: (833) 652-5326**
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:
**Valerie Ford Jacob, Esq.
Michael A. Levitt, Esq.
Freshfields Bruckhaus Deringer US LLP
601 Lexington Avenue
New York, New York 10022
(212) 277-4000**

Approximate date of commencement of proposed sale to the public: From time to time after this registration statement becomes effective.

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 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	<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 checked="" 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 7(a)(2)(B) of the 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 that 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 Securities and Exchange Commission, acting pursuant to Section 8(a), may determine.

Subject to Completion, Dated June 12, 2023

Prospectus

15,625,000 Shares

M O L E K U L E

Molekule Group, Inc.

Common Stock

This prospectus relates solely to the offer and sale from time to time of up to an aggregate of 15,625,000 shares of our common stock, par value \$0.01 per share, by the selling stockholder identified in this prospectus (the “Selling Stockholder,” which term as used in this prospectus includes pledgees, donees, transferees or other successors-in-interest). Such shares consist of (i) 3,400,000 shares of common stock that have been issued to the Selling Stockholder (the “Shares”), (ii) 3,125,000 shares of common stock that are issuable upon the exercise of a Series A warrant (the “Series A Warrant”), (iii) 6,250,000 shares of common stock that are issuable upon the exercise of a Series B warrant (the “Series B Warrant”) and (iv) 2,850,000 shares of common stock that are issuable upon the exercise of a pre-funded Warrant (the “Pre-Funded Warrant” and, together with the Series A Warrant and the Series B Warrant, the “Warrants”), in each case, pursuant to a securities purchase agreement, dated as of May 3, 2023, between us and the Selling Stockholder (the “Securities Purchase Agreement”).

The Selling Stockholder may offer such shares from time to time as it may determine through public or private transactions or through other means described in the section entitled “*Plan of Distribution*” at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. This prospectus does not necessarily mean that the Selling Stockholder will offer or sell the shares. We cannot predict when or in what amounts the Selling Stockholder may sell any of the shares offered by this prospectus. Any shares of common stock subject to resale hereunder will have been issued by us and acquired by the Selling Stockholder prior to any resale of such shares pursuant to this prospectus.

Pursuant to the Securities Purchase Agreement, we entered into a registration rights agreement with the Selling Stockholder (the “Registration Rights Agreement”). We are registering such shares for resale pursuant to the Registration Rights Agreement. We will not receive any of the proceeds from the sale of these shares of our common stock by the Selling Stockholder. However, we will receive proceeds from the exercise of the Warrants, if the Warrants are exercised for cash. We intend to use those proceeds, if any, for general corporate purposes. We have agreed to pay all fees and expenses relating to registering these shares of common stock. The Selling Stockholder will pay any broker commissions or similar commissions or fees incurred for the sale of these shares of common stock.

Because all of the shares offered under this prospectus are being offered by the Selling Stockholder, we cannot currently determine the price or prices at which our shares may be sold under this prospectus. Our common stock is listed on the Nasdaq Capital Market under the symbol “MKUL.” On June 9, 2023, the last reported sale price of our common stock on Nasdaq was \$2.35 per share.

We are an “emerging growth company” and a “smaller reporting company” under federal securities laws and, as such, have elected to comply with reduced public company reporting requirements for this prospectus and the documents incorporated by reference herein and may elect to comply with reduced public company reporting requirements in future filings.

We may amend or supplement this prospectus from time to time by filing amendments or supplements to the extent required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

Investing in our securities involves a high degree of risk. Before buying any securities, you should carefully read the discussion of material risks of investing in our securities in “Risk Factors” beginning on page 8 and the other information included or incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission (the “SEC”) nor any other regulatory body has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2023.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the SEC using a “shelf” registration or continuous offering process.

You should read this prospectus and the information and documents incorporated by reference carefully. Such documents contain important information you should consider when making your investment decision. See “*Where You Can Find More Information*” and “*Documents Incorporated by Reference*” in this prospectus.

This prospectus may be supplemented from time to time to add, update or change information in this prospectus. Any statement contained in this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in such prospectus supplement modifies or supersedes such statement. Any statement so modified will be deemed to constitute a part of this prospectus only as so modified, and any statement so superseded will be deemed not to constitute a part of this prospectus. You should rely only on the information contained or incorporated by reference in this prospectus, any applicable prospectus supplement or any related free writing prospectus. We and the Selling Stockholder have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus. This prospectus is not an offer to sell securities, and it is not soliciting an offer to buy securities, in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus or any prospectus supplement, as well as information we have filed with the SEC that is incorporated by reference, is accurate as of the date on the front of those documents only, regardless of the time of delivery of this prospectus or any applicable prospectus supplement, or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under “*Where You Can Find More Information*.”

Unless the context otherwise requires, throughout this prospectus and any applicable prospectus supplement, references in this prospectus to:

- “AeroClean” or “AeroClean Technologies, Inc.”, a Delaware corporation, refers to the Company prior to the Merger (as defined herein);
- “Aura” refers to Aura Smart Air Ltd., an Israeli company listed on the Tel Aviv Stock Exchange;
- “Aura Merger” refers to the pending acquisition of Aura, pursuant to the Agreement and Plan of Merger dated as of February 26, 2023 (the “Aura Merger Agreement”), which provides that, upon the terms and subject to the conditions set forth in the Aura Merger Agreement, and in accordance with the Israeli Companies Law, Avatar Merger Sub shall be merged with and into Aura, and Aura will continue as a wholly owned subsidiary of the Company (the “Aura Merger”);
- “Avatar Merger Sub” means Avatar Merger Sub Ltd., an Israeli company and wholly owned subsidiary of the Company;
- “Air King Merger Sub” refers to Air King Merger Sub Inc., a Delaware corporation and direct wholly-owned subsidiary of the Company;
- “Molekule Merger” refers to the acquisition of Molekule, Inc., that was consummated on January 12, 2023 pursuant to the Agreement and Plan of Merger dated as of October 3, 2022 (the “Molekule Merger Agreement”) by and among the registrant, Air King Merger Sub and Molekule, Inc. Pursuant to the Merger Agreement, Air King Merger Sub merged with and into Molekule, Inc. with Molekule, Inc. continuing as the surviving entity and a wholly-owned subsidiary of the registrant;

- “we,” “us,” “our,” the “registrant,” the “Company,” refers to Molekule Group, Inc. and its subsidiary, Molekule, Inc., following the closing of the Molekule Merger;
- “securities” refers to the shares of our common stock registered hereunder; and
- “TASE” means the Tel Aviv Stock Exchange.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the internet at the SEC's website at www.sec.gov.

We make available, free of charge, through our investor relations website, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, statements of changes in beneficial ownership of securities and amendments to those reports and statements as soon as reasonably practicable after they are filed with the SEC. The address for our website is www.molekule.com. We make our website content available for information purposes only. Information contained on our website is not incorporated by reference into this prospectus and does not constitute a part of this prospectus.

This prospectus is part of a registration statement we filed with the SEC. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our securities. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements. You can obtain a copy of the registration statement from the SEC's website.

DOCUMENTS INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we file with the SEC. This means that we can disclose important information to you by referring you to those documents. Any statement contained in a document incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein, or in any subsequently filed document, which also is incorporated by reference herein, modifies or supersedes such earlier statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We hereby incorporate by reference into this prospectus the following documents that we have filed with the SEC under the Securities Exchange Act of 1934, as amended (the "Exchange Act") (other than Current Reports on Form 8-K, or portions thereof, furnished under Items 2.02 or 7.01 of Form 8-K):

- [our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the SEC on March 31, 2023;](#)
- [our Annual Report on Form 10-K/A for the year ended December 31, 2022, filed with the SEC on April 3, 2023;](#)
- [our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2023, filed with the SEC on May 15, 2023;](#)
- our Current Reports on Form 8-K filed with the SEC on [January 12, 2023](#), [February 6, 2023](#), [February 27, 2023](#), [May 9, 2023](#), [June 1, 2023](#) and [June 9, 2023](#); and
- [the description of our common stock contained in our registration statement on Form 8-A filed with the SEC on November 19, 2021, including any amendments or reports filed for the purpose of updating this description.](#)

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may obtain copies of any of the documents incorporated by reference in this prospectus from the SEC through the SEC's website at the address provided above. You also may request a copy of any document incorporated by reference in this prospectus (including exhibits to those documents specifically incorporated by reference in this prospectus), at no cost, by contacting us at:

Molekule Group, Inc.
10455 Riverside Drive
Palm Beach Gardens, FL 33410
(833) 652-5326

ABOUT MOLEKULE

Molekule Group, Inc. (“Molekule”), formerly known as AeroClean, is a pathogen elimination technology company on a mission to keep work, play and life going by improving indoor air quality. We have the largest range of proprietary and patented, FDA-cleared air purification devices to address the rapidly growing global air purification market. Our air hygiene product, Pürgo™ (pure-go), is an FDA 510(k) cleared, Class II medical device that provides continuous air filtration, sanitization and supplemental ventilation solutions with technology that can be applied in any indoor space, including in hospitals, offices and even in elevators. Pürgo™ products feature SteriDuct™, a proprietary germicidal UV-C technology. In addition, our Air Pro and Air Mini+ air purifiers leverage a PECO technology that can destroy viruses, bacteria, mold, allergens, volatile organic compounds, chemicals and more from the air. Our purpose is simple: to never stop innovating solutions that keep people healthy and safe, so life never stops.

In June 2022, we sold an aggregate of 1,500,000 shares of common stock, and a Warrant to purchase up to 1,500,000 shares of common stock (the “2022 Warrant”), to the Selling Stockholder for an aggregate purchase price of \$15,000,000 (the “2022 Private Placement”). The exercise price of the warrant was \$11.00 per share. The closing of the 2022 Private Placement occurred on June 29, 2022.

On January 12, 2023, the registrant completed the acquisition of Molekule, Inc., a Delaware corporation, pursuant to the Agreement and Plan of Merger dated as of October 3, 2022 (the “Molekule Merger Agreement”) by and among the registrant, Air King Merger Sub Inc., a Delaware corporation and direct wholly-owned subsidiary of the registrant (“Air King Merger Sub”), and Molekule, Inc. Pursuant to the Molekule Merger Agreement, Air King Merger Sub merged with and into Molekule, Inc., with Molekule, Inc. continuing as the surviving entity and a wholly-owned subsidiary of the registrant (the “Molekule Merger”). In connection with the closing of the Molekule Merger (the “Molekule Merger Closing”), the registrant changed its name from AeroClean Technologies, Inc. to Molekule Group, Inc. Unless the context otherwise requires, “we,” “us,” “our,” and the “Company” refer to the combined company following the Molekule Merger, together with its subsidiary, and “AeroClean” refers to the registrant prior to the Molekule Merger Closing.

At the effective time of the Molekule Merger, the outstanding shares of Molekule, Inc. common stock, par value \$0.0001, that were issued and outstanding immediately prior to the effective time of the Molekule Merger (the “Molekule, Inc. Common Stock”) (including shares of Molekule, Inc. Common Stock resulting from the conversion of Molekule Inc.’s eligible preferred stock, but excluding dissenting shares and shares held in treasury), were converted automatically into, and the holders of such shares of Molekule Inc. Common Stock were entitled to receive, by virtue of the Molekule Merger and upon the terms and subject to the conditions set forth in the Molekule Merger Agreement, 14,907,210 fully paid and nonassessable shares of Company common stock, par value \$0.01 per share (the “Company Common Stock”), that resulted in the Molekule, Inc. stockholders in the aggregate, after taking into account the Company Common Stock underlying In-the-Money Company Warrants (as defined in the Molekule Merger Agreement) and the grants of restricted stock units (“RSUs”) by the Company to certain continuing Molekule, Inc. employees which were deemed vested and outstanding as of immediately following the effective time of the Molekule Merger, holding 49.5% of the Outstanding Shares (as defined in the Molekule Merger Agreement).

On February 26, 2023, we entered into an Agreement and Plan of Merger with Aura Smart Air Ltd. (“Aura”), an Israeli company listed on the Tel Aviv Stock Exchange the (“TASE”) and the creator of a proprietary, software, sensor and internet-of-things (“IoT”) enabled data-driven air purification system (the “Aura Merger”). We intend to implement Aura’s advanced software, sensor and IoT technology across our entire product range and in each of our highly developed sales channels, including major global healthcare, commercial and municipal customers, seeking multi-location and multi-room, enterprise-wide safe air solutions. Consummation of the Aura Merger is subject to customary closing conditions, including among others the SEC declaring our registration statement on Form S-4 effective, the listing of our common stock on the TASE, receipt of Aura shareholder approval, receipt of a tax ruling regarding Israeli withholding tax and receipt of all material third party consents. The Aura Merger is expected to close early in the second half of 2023.

As part of our business strategy, we continually evaluate a wide array of strategic opportunities, including the acquisition, disposition or licensing of intellectual property, mergers and acquisitions, joint

ventures and other strategic transactions. We may seek to acquire technologies, product lines and companies that operate in businesses similar to our own or that are ancillary, complementary or adjacent to our own or in which we do not currently operate. Such businesses could operate in the air purification space or more generally in the health and wellness space or in other industries. We could also seek to merge with or into another company or sell all or substantially all of our assets to another company. We could also seek to merge with or into another company or sell all or substantially all of our assets to another company. In connection with these activities, we may enter into non-binding letters of intent as we assess the commercial appeal of potential strategic transactions. Any transactions that we enter into could be material to our business, financial condition and operating results.

We were formed as Cleanco Bioscience Group LLC, a limited liability company in Florida, in September 2011 and effected a name change to AeroClean Technologies, LLC and conversion to a Delaware limited liability company in September 2020. On November 23, 2021, in connection with our initial public offering, we converted into a Delaware corporation as AeroClean Technologies, Inc. On January 12, 2023, we effected a name change to Molekule Group, Inc. in connection with our acquisition of Molekule, Inc.

The address of our principal executive offices is 10455 Riverside Drive, Palm Beach Gardens, FL 33410. Our phone number is (833) 652-5326. Our corporate website is www.molekule.com. The information contained on or that can be accessed through our website is not incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus or in deciding whether to purchase shares of our common stock. We have included our website address in this prospectus solely as an inactive textual reference.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement and the documents incorporated herein and therein by reference contain “forward-looking statements” within the meaning of, and subject to the safe harbor created by, Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), Section 21E of the Exchange Act and the Private Securities Litigation Reform Act of 1995, and such statements are subject to the “safe harbor” created by those sections.

Statements that are not purely historical are forward-looking statements. Forward-looking statements include, but are not limited to, statements regarding expectations, hopes, beliefs, intentions or strategies regarding the future. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. The words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “plan,” “possible,” “potential,” “predict,” “project,” “should,” “would” and similar expressions may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. Forward-looking statements may include, for example, statements about:

- general economic conditions in the markets where we operate;
- the impact of the COVID-19 pandemic and related prophylactic measures;
- the expected timing of regulatory approvals and product launches;
- non-performance of third-party vendors and contractors;
- risks related to our ability to successfully sell our products and the market reception to and performance of our products;
- our compliance with, and changes to, applicable laws and regulations;
- our limited operating history;
- our ability to manage growth;
- our ability to obtain additional financing when and if needed;
- our ability to expand product offerings;
- our ability to compete with others in our industry;
- our ability to protect our intellectual property;
- the ability of certain stockholders to determine the outcome of matters which require stockholder approval;
- our ability to retain the listing of our common stock on Nasdaq;
- our ability to defend against legal proceedings;
- our success in retaining or recruiting, or changes required in, our officers, key employees or directors;
- the ability to successfully integrate the businesses after the completion of the Molekule Merger or the Aura Merger;
- our ability to achieve the expected benefits from the Molekule Merger or the Aura Merger within the expected time frames or at all;
- the incurrence of unexpected costs, liabilities or delays relating to the Aura Merger;
- the risk that the public assigns a lower value to Molekule’s business than the value used in negotiating the terms of the Aura Merger;
- the risk that the Aura Merger may not be accretive to our stockholders;
- the risk that the Aura Merger may prevent us from acting on future opportunities to enhance stockholder value; and
- the risk that any goodwill or identifiable intangible assets recorded due to the Aura Merger could become impaired.

The forward-looking statements contained or incorporated in this prospectus are based on current expectations and beliefs concerning future developments and their potential effects on us at the time such forward-looking statements were made. There can be no assurance that future developments will be those that have been anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond our control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, those factors described in the “*Risk Factors*” section, our Annual Report on Form 10-K, as amended, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other documents filed by us from time to time with the SEC. See “*Where You Can Find More Information.*” Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

RISK FACTORS

An investment in our securities involves a significant degree of risk. Before you invest in our securities, you should carefully consider the risks, including those described under “*Risk Factors*” in our most recent Annual Report on Form 10-K, as amended and any updates in our Quarterly Reports on Form 10-Q filed with the SEC, which are incorporated by reference into this prospectus. For further details, see the sections entitled “*Where You Can Find More Information*” and “*Documents Incorporated by Reference*.” Our business, financial condition, results of operations and prospects could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment. The risks referred to above are not the only ones that may exist. Additional risks and uncertainties not presently known to us, or that we currently deem immaterial, may also become important factors that affect us. If any of the risks or uncertainties described in our SEC filings or any such additional risks and uncertainties actually occur, it could harm our business, financial condition and results of operations and growth prospects. In such an event, the market price of our common stock could decline, and you may lose all or part of your investment.

USE OF PROCEEDS

We will not receive any proceeds from the sale of shares of our common stock being offered for sale by the Selling Stockholder.

However, upon the exercise of the Warrants, we will receive the exercise price of such Warrants, for an aggregate amount of approximately \$16.5 million if the Warrants are exercised in full. There is no assurance the Warrants will be exercised or, if exercised, that they will be exercised for cash, the quantity which will be exercised or the period in which they will be exercised.

Our management will have broad discretion as to the application of the proceeds generated from the exercise of the Warrants. Our management may use the proceeds for corporate purposes that may not improve our financial condition or the market value of our common stock.

PRIVATE PLACEMENT OF SHARES OF COMMON STOCK AND WARRANTS

On May 3, 2023, we entered into the Securities Purchase Agreement with the Selling Stockholder, pursuant to which we agreed to sell (i) 3,400,000 Shares, (ii) 3,125,000 shares of common stock that are issuable upon the exercise of the Series A Warrant, (iii) 6,250,000 shares of common stock that are issuable upon the exercise of the Series B Warrant and (iv) 2,850,000 shares of common stock that are issuable upon the exercise of the Pre-Funded Warrant, for an aggregate purchase price of approximately \$9,971,500 (the “Private Placement”). The Securities Purchase Agreement contains customary representations, warranties and agreements by the Company. The closing of the Private Placement occurred on May 5, 2023 (the “Closing Date”). The Company also agreed to reduce the exercise price of the 2022 Warrant owned by the Selling Stockholder to \$2.00 per share of common stock.

The Series A Warrant has an exercise price of \$1.60 per share of common stock, the Series B Warrant has an exercise price of \$1.84 per share of common stock, and the Pre-Funded Warrant has a nominal exercise price per share of common stock. The Series A Warrant and Series B Warrant, and a portion (175,000 shares) of the Pre-Funded Warrant, will become exercisable following the filing and distribution of an information statement to the Company’s stockholders, and the Pre-Funded Warrant (other than with respect to the aforementioned 175,000 shares) will be exercisable upon issuance. The Series A Warrant will terminate eight months after it becomes exercisable. The Series B Warrant and the Pre-Funded Warrant will terminate five years after they become exercisable.

As of May 15, 2023, the Selling Stockholder beneficially owns approximately 9.9% of the outstanding shares of common stock of the Company. The Series A Warrant, the Series B Warrant and the Pre-Funded Warrant each contains an ownership limitation providing that the Selling Stockholder may not exercise the Series A Warrant, the Series B Warrant or the Pre-Funded Warrant with respect to any shares of common stock that would result in the Selling Stockholder beneficially owning more than 4.99% of the outstanding shares of common stock. The Selling Stockholder may increase or decrease this limitation upon notice to us, but in no event will any such limitation exceed 9.99%.

In connection with the Private Placement, we entered into the Registration Rights Agreement with the Selling Stockholder. Pursuant to the Registration Rights Agreement, we are required to file and maintain a resale registration statement with the SEC in order to register the shares sold to the Selling Stockholder and the shares underlying the Warrants. We will be obligated to pay certain liquidated damages to the Selling Stockholder if we fail to maintain the effectiveness of the registration statement pursuant to the terms of the Registration Rights Agreement.

SELLING STOCKHOLDER

The shares of common stock being offered by the Selling Stockholder are those previously issued to the Selling Stockholder and those issuable to the Selling Stockholder upon exercise of the Warrants. For additional information regarding the issuances of these Shares and the Warrants, see the section entitled “*Private Placement of Shares of Common Stock and Warrants*.” We are registering the shares of common stock in order to permit the Selling Stockholder to offer the shares for resale from time to time. Except for the issuance of the Shares and the Warrants, and other than the issuance of shares and the 2022 Warrant to the Selling Stockholder in June 2022, the Selling Stockholder has not had any material relationship with us within the past three years.

In June 2022, we sold an aggregate of 1,500,000 shares of common stock and the 2022 Warrant to the Selling Stockholder for an aggregate purchase price of \$15,000,000. The exercise price of the warrant was \$11.00 per share. The closing of the 2022 Private Placement occurred on June 29, 2022. The Company subsequently agreed to reduce the exercise price of the 2022 Warrant owned by the Selling Stockholder to \$2.00 per share of common stock.

The 2022 Warrant is currently exercisable. The 2022 Warrant must be exercised on or prior to 5:00 p.m. on July 21, 2027. The Selling Stockholder has contractually agreed to restrict its ability to exercise the 2022 Warrant if the number of shares of our common stock held by the Selling Stockholder and its affiliates after such exercise would exceed 4.99% of the then issued and outstanding shares of our common stock. The Selling Stockholder may increase or decrease this limitation upon notice to us, but in no event will any such limitation exceed 9.99%. The shares issuable upon the exercise of the 2022 Warrant are registered on a registration statement on Form S-3, declared effective by the SEC on January 27, 2023.

The table below lists the Selling Stockholder and other information regarding the beneficial ownership of the shares of common stock owned by the Selling Stockholder. The second column lists the number of shares of common stock beneficially owned by the Selling Stockholder as of May 15, 2023. This number does not include any shares of common stock issuable upon the exercise of the Warrants or the 2022 Warrant held by the Selling Stockholder on that date. Applicable percentage ownership is based on 34,002,750 shares of Common Stock outstanding on May 15, 2023.

The third column lists the shares of common stock being offered by this prospectus by the Selling Stockholder.

In accordance with the terms of the Registration Rights Agreement, this prospectus generally covers the resale of the sum of (i) the number of shares of common stock issued to the Selling Stockholder as described in the section entitled “*Private Placement of Shares of Common Stock and Warrants*” and (ii) the maximum number of shares of common stock issuable upon exercise of the Warrants, determined as if the Warrants were exercised in full.

The fourth and fifth columns assume the sale of all of the shares offered by the Selling Stockholder pursuant to this prospectus.

As of May 15, 2023, the Selling Stockholder beneficially owns approximately 9.9% of the outstanding shares of common stock of the Company. Under the terms of the Warrants, the Selling Stockholder may not exercise the Warrants to the extent such exercise would cause such Selling Stockholder, together with its affiliates and attribution parties, to beneficially own a number of shares of common stock that would exceed 4.99% of our then outstanding common stock following such exercise, excluding for purposes of such determination shares of common stock issuable upon exercise of such Warrants that have not been exercised. The Selling Stockholder may increase or decrease this limitation upon notice to us, but in no event will any such limitation exceed 9.99%. The Selling Stockholder may sell all, some or none of its shares in this offering. See the section entitled “*Plan of Distribution*.”

Name and Address of Selling Stockholder	Number of Shares of Common Stock Owned Prior to the Offering	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus	Number of Shares of Common Stock Owned After the Offering	Percentage of Shares of Common Stock Owned After the Offering
Armistice Capital Master Fund Ltd. c/o Armistice Capital, LLC 510 Madison Avenue, 7th Floor New York, New York 10022	3,400,000 ⁽¹⁾	15,625,000	— ⁽¹⁾	—

- (1) The shares of common stock reported herein are held by the Armistice Capital Master Fund Ltd. (the “Master Fund”) and may be deemed to be indirectly beneficially owned by (i) Armistice Capital, LLC (“Armistice Capital”), as the investment manager of the Master Fund, and (ii) Steven Boyd, as the Managing Member of Armistice Capital. Armistice Capital and Steven Boyd disclaim beneficial ownership of the securities except to the extent of their respective pecuniary interests therein. Excludes 12,225,000 shares issuable upon the exercise of the Warrants, which are subject to beneficial ownership limitations that prohibit the Master Fund from exercising any of the Warrants if such exercise would result in the Master Fund beneficially owning a number of shares of common stock that would exceed 4.99% of our then outstanding common stock following such exercise, excluding for purposes of such determination shares of common stock issuable upon exercise of the Warrants that have not been exercised. Also excludes an additional 1,500,000 shares issuable upon the exercise of the 2022 Warrant, which is subject to a beneficial ownership limitation that prohibits the Master Fund from exercising such warrant if such exercise would result in the Master Fund beneficially owning a number of shares of common stock that would exceed 4.99% of our then outstanding common stock following such exercise, excluding for purposes of such determination shares of common stock issuable upon exercise of the 2022 Warrant that has not been exercised.

PLAN OF DISTRIBUTION

The Selling Stockholder and any of its pledgees, assignees and successors-in-interest may, from time to time, sell any or all of the shares of common stock covered by this prospectus on Nasdaq or any other stock exchange, market or trading facility on which the shares of common stock are traded or in private transactions. These sales may be at fixed or negotiated prices. The Selling Stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales;
- in transactions through broker-dealers that agree with the Selling Stockholder to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The Selling Stockholder may also sell securities under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus or a prospectus supplement.

Broker-dealers engaged by the Selling Stockholder may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholder (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated but, except as set forth in a supplement to this prospectus, in the case of an agency transaction, not in excess of a customary brokerage commission in compliance with FINRA Rule 2121 and, in the case of a principal transaction, a markup or markdown in compliance with FINRA Rule 2121.

In connection with the sale of securities or interests therein, the Selling Stockholder may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The Selling Stockholder may also sell securities short and deliver these securities to close out their short positions or loan or pledge the securities to broker-dealers that in turn may sell these securities. The Selling Stockholder may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities that require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholder and any broker-dealers or agents that are involved in selling the securities may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. The Selling Stockholder has informed the Company that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

The Company is required to pay certain fees and expenses incurred by the Company incident to the registration of the securities. The Company has agreed to indemnify the Selling Stockholder against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

We have agreed to keep this prospectus effective until the earlier of (i) the date on which the securities may be resold by the Selling Stockholder without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for the Company to be in compliance with the current public information under Rule 144 under the Securities Act or any other rule of similar effect or (ii) all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the securities may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholder will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the securities by the Selling Stockholder or any other person. We will make copies of this prospectus and any prospectus supplements available to the Selling Stockholder and have informed them of the need to deliver a copy of this prospectus or any prospectus supplements to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

LEGAL MATTERS

The validity of the securities offered hereby has been passed upon for us by Freshfields Bruckhaus Deringer US LLP.

EXPERTS

The consolidated financial statements of Molekule Group, Inc. (f/k/a AeroClean Technologies, Inc.) as of December 31, 2022 and 2021 and for each of the two years in the period ended December 31, 2022, incorporated by reference in this prospectus, have been so incorporated in reliance on the report (which contains an explanatory paragraph relating to the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements) of Citrin Cooperman and Company, LLP, an independent registered public accounting firm, upon the authority of said firm as experts in auditing and accounting.

The audited historical financial statements of Molekule, Inc. included on exhibit 99.1 of Molekule Group, Inc.'s Current Report on Form 8-K dated June 9, 2023 have been so incorporated in reliance on the report (which contains an explanatory paragraph relating to Molekule, Inc.'s ability to continue as a going concern as described in Note 2 to the financial statements) of PricewaterhouseCoopers LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

15,625,000 Shares

M O L E K U L E

MOLEKULE GROUP, INC.

COMMON STOCK

PART II

INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 14. *Other Expenses of Issuance and Distribution.*

The following table sets forth an itemized statement of the amounts of all expenses (excluding underwriting discounts and commissions) payable by us in connection with the registration of the common stock offered hereby. With the exception of the SEC registration fee, the amounts set forth below are estimates.

SEC registration fee	\$ 3,839.79
Accounting fees and expenses	10,000.00
Legal fees and expenses	75,000.00
Miscellaneous	11,160.21
Total	<u>\$100,000.00</u>

Item 15. *Indemnification of Directors and Officers.*

Section 102 of the General Corporation Law of the State of Delaware permits a corporation to eliminate the personal liability of directors and officers of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director or officer, except where the director or officer breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit, or, with respect to any officer, any action by or in the right of the corporation. Our certificate of incorporation provides that no director or officer of the registrant shall be personally liable to it or its stockholders for monetary damages for any breach of fiduciary duty as a director or officer, notwithstanding any provision of law imposing such liability, except to the extent that the General Corporation Law of the State of Delaware prohibits the elimination or limitation of liability of directors or officers for breaches of fiduciary duty.

Section 145 of the General Corporation Law of the State of Delaware provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust or other enterprise in related capacities, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses that the Court of Chancery or such other court shall deem proper.

Our certificate of incorporation and bylaws provide indemnification for our directors and officers to the fullest extent permitted by the General Corporation Law of the State of Delaware. We will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding (other than an action by or in the right of us) by reason of the fact that he or she is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such

Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. Our certificate of incorporation and bylaws provide that we will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnitee is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys' fees) actually and reasonably incurred in connection therewith. Expenses must be advanced to an Indemnitee under certain circumstances.

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.

Item 16. Exhibits.

The following documents are filed as exhibits to this registration statement, including those exhibits incorporated herein by reference to a prior filing of the registrant under the Securities Act or the Exchange Act as indicated in parentheses:

Exhibit No.	Exhibit Description
2.1#	<u>Agreement and Plan of Merger, dated October 3, 2022 (incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K (File No. 001-41096) filed with the SEC on October 4, 2022).</u>
2.2#	<u>Agreement and Plan of Merger, dated February 26, 2023, by and among Molekule Group, Inc., Avatar Merger Sub Ltd. and Aura Smart Air Ltd. (incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K (File No. 001-41096) filed with the SEC on February 27, 2023).</u>
4.2	<u>Amended and Restated Certificate of Incorporation of the Company (incorporated by reference to Exhibit 3.1 to the Company's Annual Report on Form 10-K (File No. 001-41096), filed with the SEC on March 31, 2023).</u>
4.3	<u>Second Amended and Restated Bylaws (incorporated by reference to Exhibit 3.3 to the Registrant's Current Report on Form 8-K (File No. 001-41096), filed with the SEC on January 12, 2023).</u>
4.4	<u>Series A Warrant (incorporated by reference into Exhibit 4.3 on the Registrant's Current Report on Form 8-K filed with the SEC on May 9, 2022).</u>
4.5	<u>Series B Warrant (incorporated by reference into Exhibit 4.4 on the Registrant's Current Report on Form 8-K filed with the SEC on May 9, 2022).</u>
4.6	<u>Pre-Funded Warrant (incorporated by reference into Exhibit 4.5 on the Registrant's Current Report on Form 8-K filed with the SEC on May 9, 2022).</u>
4.7	<u>Form of 2022 Warrant (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K, filed with the U.S. Securities and Exchange Commission on June 30, 2022).</u>
4.8	<u>2022 Warrant Amendment (incorporated by reference into Exhibit 4.2 on the Registrant's Current Report on Form 8-K filed with the SEC on May 9, 2022).</u>
5.1	<u>Legal opinion of Freshfields Bruckhaus Deringer US LLP.</u>

Exhibit No.	Exhibit Description
23.1	<u>Consent of Citrin Cooperman & Company, LLP, Independent Registered Public Accounting Firm for the Registrant.</u>
23.2	<u>Consent of PricewaterhouseCoopers LLP, Independent Accountants for Molekule, Inc.</u>
23.3	<u>Consent of Freshfields Bruckhaus Deringer US LLP (included in Exhibit 5.1).</u>
24.1	<u>Power of Attorney (included on signature page).</u>
107	<u>Filing Fee Table.</u>

The schedules and annexes (and similar attachments) to this exhibit have been omitted from this filing pursuant to Item 601(b)(10) of Regulation S-K. The registrant agrees to furnish a supplemental copy of any omitted schedule (or similar attachment) to the SEC upon request.

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% 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), (a)(1)(ii) and (a)(1)(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 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.
- (4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however,* that no statement made in a registration statement or prospectus that is part of the registration

statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

- (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.
- (c) 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.

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 registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Palm Beach Gardens, State of Florida, on June 12, 2023.

MOLEKULE GROUP, INC.

/s/ Jason DiBona

Jason DiBona
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Jason DiBona and Ryan Tyler, and each or any one of them, as his or her true and lawful attorney-in-fact and agent, each with full power of substitution and resubstitution, for him or her 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 Securities and Exchange Commission, granting unto said attorney-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, as amended, this registration statement has been signed by the following persons in the capacities indicated below on June 12, 2023.

/s/ Jason DiBona

Jason DiBona

Chief Executive Officer
(Principal Executive Officer)

/s/ Ryan Tyler

Ryan Tyler

Chief Financial Officer (Principal Financial Officer
and Principal Accounting Officer)

/s/ Amin J. Khoury, Ph.D. (Hon)

Amin J. Khoury, Ph.D. (Hon)

Chairman of the Board

/s/ David Helfet, M.D.

David Helfet, M.D.

Director

/s/ Michael Senft

Michael Senft

Director

/s/ Thomas P. McCaffrey

Thomas P. McCaffrey

Director

/s/ Heather Floyd

Heather Floyd

Director

<i>/s/ Timothy J. Scannell</i> _____ Timothy J. Scannell	Director
<i>/s/ Stephen M. Ward, Jr.</i> _____ Stephen M. Ward, Jr.	Director
<i>/s/ Brad Feld</i> _____ Brad Feld	Director

**New York**

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Molekule Group, Inc.
10455 Riverside Drive
Palm Beach Gardens, Florida 33410

June 12, 2023

Ladies and Gentlemen:

We are acting as counsel to Molekule Group, Inc., a Delaware corporation (the **Company**), in connection with the Company's Registration Statement on Form S-3 (as amended or supplemented from time to time, the **Registration Statement**, which term does not include any other document or agreement whether or not specifically referred to therein or attached as an exhibit or schedule thereto), filed by the Company with the Securities and Exchange Commission (the **Commission**) under the Securities Act of 1933, as amended (the **Securities Act**). The Registration Statement relates to the offer and sale from time to time by the selling stockholder listed in the Registration Statement under "Selling Stockholder" (the **Selling Stockholder**) of up to an aggregate of 15,625,000 shares of the Company's common stock, \$0.01 par value per share (the **Common Stock**), consisting of (i) 3,400,000 shares of Common Stock that have been issued to the Selling Stockholder (the **Shares**), (ii) 3,125,000 shares of Common Stock that are issuable upon the exercise of the Series A Warrant (as defined below) (the **Series A Warrant Shares**), (iii) 6,250,000 shares of Common Stock that are issuable upon the exercise of the Series B Warrant (as defined below) (the **Series B Warrant Shares**) and (iv) 2,850,000 shares of Common Stock that are issuable upon the exercise of the Pre-Funded Warrant (as defined below) (the **Pre-Funded Warrant Shares** and, together with the Series A Warrant Shares and the Series B Warrant Shares, collectively, the **Warrant Shares** and, together with the Shares, the **Securities**).

This opinion is confined to the General Corporation Law of the State of Delaware. Accordingly, we express no opinion herein with regard to any other laws. The opinions expressed herein are limited to the matters stated herein, and no opinion is implied or may be inferred beyond the matters expressly stated herein. We do not undertake to advise you of changes in law or facts that may come to our attention after the date of this letter.

In rendering the opinion expressed below, we have examined the following documents and agreements:

- (a) the Series A warrant, dated as of May 5, 2023 (the **Series A Warrant**);
- (b) the Series B warrant, dated as of May 5, 2023 (the **Series B Warrant**);
- (c) the pre-funded warrant, dated as of May 5, 2023 (the **Pre-Funded Warrant** and, together with the Series A Warrant and the Series B Warrant, collectively, the **Warrants**); and
- (d) the Registration Statement.



Freshfields Bruckhaus Deringer is an international legal practice operating through Freshfields Bruckhaus Deringer US LLP, Freshfields Bruckhaus Deringer LLP, Freshfields Bruckhaus Deringer (a partnership registered in Hong Kong), Freshfields Bruckhaus Deringer Law office, Freshfields Bruckhaus Deringer Foreign Law Office, Studio Legale associato a Freshfields Bruckhaus Deringer, Freshfields Bruckhaus Deringer Rechtsanwälte Steuerberater PartG mbB, Freshfields Bruckhaus Deringer Rechtsanwälte PartG mbB and other associated entities and undertakings. For further regulatory information please refer to www.freshfields.com/support/legal-notice.

In addition, we have examined and have relied as to matters of fact upon such corporate and other records, agreements, documents and other instruments and certificates or comparable documents of public officials and of officers and representatives of the Company and such other persons, and we have made such other investigations, as we have deemed relevant and necessary as a basis for the opinion expressed below.

In our examination, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all documents submitted to us as originals and the conformity with authentic originals of all documents submitted to us as copies. As to any facts material to the opinion expressed herein that we did not independently establish or verify, we have relied, without independent verification, upon oral or written statements and representations of public officials, officers and other representatives of the Company. We have also assumed that the Warrants have been duly authorized, executed and delivered by the Company. For purposes of the opinion set forth in paragraph 2 below, we have assumed that (i) no exercise of the Series A Warrant, the Series B Warrant or the portion of the Pre-Funded Warrant Shares (175,000 shares) the issuance of which is subject to approval by the Company's stockholders (the **Delayed Exercise Shares**) will be effectuated prior to twenty days following the Company's distribution of an information statement to its stockholders in accordance with Schedule 14C of the U.S. Securities Exchange Act of 1934, as amended, regarding the approval of the prospective issuance of the Series A Warrant Shares, the Series B Warrant Shares and the Delayed Exercise Shares by the Company's stockholders via written consent in lieu of a meeting (the **Information Statement**), and (ii) before the Warrant Shares are issued, the Company has not issued shares of Common Stock or reduced the total number of shares of Common Stock that the Company is authorized to issue under its certificate of incorporation (as such may be amended and/or restated from time to time, the **Charter**) such that, at the time the Warrant Shares are to be issued, the number of unissued shares of Common Stock authorized under the Charter is less than the number of Warrant Shares.

Based upon and subject to the foregoing, and subject also to the qualifications set forth below, and having considered such questions of law as we have deemed relevant and necessary as a basis for the opinion expressed below, we are of the opinion that:

1. The Shares to be sold by the Selling Stockholder have been duly authorized and are validly issued, fully paid and nonassessable.
2. The Warrant Shares have been duly authorized and, when the Warrant Shares have been issued upon the exercise of the Warrants in accordance with the terms of the respective Warrant, the Warrant Shares will be validly issued, fully paid and non-assessable.

The opinion set forth in paragraph 2 above is subject to the Company's obligation to obtain stockholder approval in accordance with Nasdaq Listing Rule 5635, to file the Information Statement with the SEC and to distribute the Information Statement to the Company's stockholders in the timeframe provided by law.

The opinions expressed in this letter are solely for your benefit and the benefit of persons entitled to rely thereon pursuant to applicable provisions of the Securities Act and the rules and regulations of the Commission promulgated thereunder and may not be relied upon in any manner or used for any purpose by any other person or entity.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and further consent to the reference to our name under the caption "Legal Matters" in the Registration Statement. In giving this consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act.

Very truly yours,

/s/ Freshfields Bruckhaus Deringer US LLP



CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of our report dated March 31, 2023, relating to the consolidated financial statements of Molekule Group, Inc. (fka AeroClean Technologies, Inc.) and Subsidiary (the “Company”), as of December 31, 2022 and 2021, and for each of the years in the two- year period ended December 31, 2022. Our report contains an explanatory paragraph regarding substantial doubt about the Company’s ability to continue as a going concern. We also consent to the use of our name as it appears under the caption “Experts” in this Registration Statement.

/s/ CITRIN COOPERMAN & COMPANY, LLP

New York, New York

June 12, 2023

CONSENT OF INDEPENDENT AUDITORS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of Molekule Group, Inc. of our report dated June 7, 2023, relating to the financial statements of Molekule, Inc., which appears in Molekule Group, Inc.'s Current Report on Form 8-K dated June 9, 2023. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PricewaterhouseCoopers LLP

San Francisco, California
June 12, 2023

Exhibit 107

Calculation of Filing Fee Table
Form S-3
(Form Type)
Molekule Group, 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⁽¹⁾	Proposed Maximum Offering Price per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Newly Registered Securities							
Equity	Common stock, \$0.01 par value per share	Other ⁽²⁾	3,400,000 ⁽³⁾	\$ 2.23 ⁽²⁾	\$ 7,582,000	\$110.20 per \$1,000,000	\$ 835.54
Equity	Common stock, \$0.01 par value per share	Other ⁽²⁾	3,125,000 ⁽⁴⁾	\$ 2.23 ⁽²⁾	\$ 6,968,750	\$110.20 per \$1,000,000	\$ 767.96
Equity	Common stock, \$0.01 par value per share	Other ⁽²⁾	6,250,000 ⁽⁵⁾	\$ 2.23 ⁽²⁾	\$ 13,937,500	\$110.20 per \$1,000,000	\$ 1,535.91
Equity	Common stock, \$0.01 par value per share	Other ⁽²⁾	2,850,000 ⁽⁶⁾	\$ 2.23 ⁽²⁾	\$ 6,355,500	\$110.20 per \$1,000,000	\$ 700.38
Total Offering Amounts					\$ 34,843,750		\$ 3,839.79
Total Fee Offsets							—
Net Fee Due							\$ 3,839.79

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the “Securities Act”), this registration statement also covers such additional shares of the common stock of the registrant, par value \$0.01 per share (the “Common Stock”), as may be issued to prevent dilution from stock splits, stock dividends and similar transactions. The Common Stock is being registered pursuant to a registration rights agreement, dated as of May 5, 2023, by and between the registrant and the selling stockholder.

- (2) Estimated pursuant to Rule 457(c) under the Securities Act, and solely for the purpose of calculating the registration fee, the proposed maximum offering price per share is the average of the high and low prices reported for the Common Stock quoted on the Nasdaq Capital Market on June 7, 2023.
 - (3) Represents 3,400,000 shares of Common Stock, issued to the selling stockholder on May 5, 2023.
 - (4) Represents 3,125,000 shares of Common Stock issuable upon the exercise of the Series A Warrant (as defined in the Registration Statement). The Series A Warrant was issued to the selling stockholder on May 5, 2023.
 - (5) Represents 6,250,000 shares of Common Stock issuable upon the exercise of the Series B Warrant (as defined in the Registration Statement). The Series B Warrant was issued to the selling stockholder on May 5, 2023.
 - (6) Represents 2,850,000 shares of Common Stock issuable upon the exercise of the Pre-Funded Warrant (as defined in the Registration Statement). The Pre-Funded Warrant had an initial exercise price of \$1.60 per share, of which \$1.59 per share was pre-funded upon issuance, leaving a remaining nominal exercise price of \$0.01 per share. The Pre-Funded Warrant was issued to the selling stockholder on May 5, 2023.
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