

MOLEKULE

Molekule's PECO technology demonstrates power of pollutant destruction in air purification

August 24, 2023

Creator of Food and Drug Administration-cleared air purification devices, Molekule is the only brand harnessing photoelectrochemical oxidation along with HEPA technology to capture and destroy airborne pollutants at a molecular level



PALM BEACH GARDENS, Fla., Aug. 24, 2023 (GLOBE NEWSWIRE) -- Molekule Group, Inc. ("Molekule" or the "Company") (Nasdaq: MKUL), a leading air purification technology company, today announced new laboratory results that highlight the power of the Company's proprietary photoelectrochemical oxidation ("PECO") technology and its ability to destroy what conventional filters leave behind.

Three new studies were completed, including one from Florida International University, that demonstrate that Molekule's PECO technology can safely destroy a vast range of indoor air pollutants. PECO technology for air purification reacts with ultraviolet light to oxidize pollutants, including viruses, bacteria, mold, ozone, allergens, volatile organic compounds, particles found in smoke and chemicals, and break them down into harmless molecules.

"The new studies highlight the culmination of nearly three decades of rigorous scientific research and development. PECO technology not only captures but destroys pollutants at a microscopic scale, ultimately helping people who suffer from specific pollutant triggers breathe better air," said Jaspreet Dhau, Molekule's vice president and head of research and development. "In combating indoor air pollution, these results illustrate our patented PECO technology's high-level efficiency in critical scenarios like hospitals, as well as health care facilities, classrooms, homes, businesses, public areas and other essential indoor environments."

[The Florida International University preclinical study](#) assessed the differences in how air cleaned by a Molekule PECO-enhanced device affects allergic reactions compared to air cleaned by high-efficiency particulate absorbing ("HEPA") filtration alone. The study introduced cat dander, one of the most prominent indoor allergens, into four chambers — two without a purifier (negative control group and positive control group), one with a HEPA purifier and one with a PECO purifier — three times a week for six weeks and measured the reaction of 40 mice (10 per group) to the allergen.

- Researchers found a measurable difference between Molekule's PECO technology and HEPA compared to control groups. The study found a four-fold increase in the allergic response in control groups compared to PECO and HEPA groups.
- The study also found that when looking at immune cells and chemicals within the mice, the PECO group had a better outcome than the HEPA group. Both were significantly better than the control group.

The researchers hypothesized that mice in the PECO group exhibited fewer cells associated with immune response because the PECO filtration destroyed dander particles that the HEPA filtration did not capture. The Company believes these results are promising and intends to develop them

further as part of human clinical testing.

In June 2023, Molekule announced the results of an additional study conducted jointly by [Mercyhealth and The University of South Florida](#), which measured the efficacy of Molekule's PECO-powered air purification on clinical recovery in mild or moderate COVID-19 patients.

- Patients in the Air Pro purifier group consisted of 18 females with a mean age of 70 and candidates in the placebo group consisted of 19 females with a mean age of 74.
- The research demonstrated that in-room devices with PECO technology could help reduce the length of hospital stays by approximately two days — a statistically significant length of time.

Additionally, an imminent University of Nebraska Medical Center study, which was commissioned by Molekule, assessed the impact of coronavirus coming into contact with a Molekule PECO-enhanced device.

- The results show the virus that causes COVID-19 oxidizes onto the filter, leaving no evidence of its presence.

Molekule provides one of the largest ranges of proprietary and patented FDA-cleared air purification devices available today. The Company was founded in 2014 to tackle the adverse impacts of polluted air in health care, education, hospitality and commercial smart building applications.

For more information about how Molekule's patented PECO technology detects and destroys organic pollutants, please visit molekule.com.

About Molekule

References to "Molekule" herein include Molekule Group, Inc. (Nasdaq: MKUL) and its consolidated subsidiaries, including Molekule, Inc. Molekule is creating safer, healthier indoor environments worldwide, starting with our most essential resource: the air we breathe. Based on over 25 years of research and development, the company creates scientifically tested technology to improve indoor air quality for individuals, businesses, schools, hospitals and organizations of all sizes. Molekule's lineup of air purification solutions incorporates medical-grade high-efficiency particulate air filtration and the company's patented photoelectrochemical oxidation — PECO — technology, which surpasses traditional filters by effectively destroying a wide range of pollutants, including volatile organic compounds, mold, bacteria, viruses and allergens. These devices have undergone rigorous assessments by third-party laboratories, earning FDA clearance as medical devices. It's all part of Molekule's vision of changing the world from the indoors out. For more details, please visit molekule.com.

Forward-Looking Statements

This press release contains "forward-looking statements" within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based upon current beliefs and expectations of our management and are subject to known and unknown risks and uncertainties. Words or expressions such as "expects," "anticipates," "intends," "plans," "believes," "estimates," "may," "will," "projects," "could," "should," "would," "seek," "forecast," or other similar expressions help identify forward-looking statements. Factors that could cause actual events to differ include, but are not limited to:

- general economic conditions in the markets where we operate;
- the impact of the COVID-19 pandemic and related prophylactic measures;
- 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, including our new Molekule 360 indoor air quality management solutions;
- the possibility that our products do not ultimately perform in line with our testing or that prior test results may not be replicated in future studies;
- 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 that require stockholder approval;
- our ability to retain the listing of our common stock on Nasdaq;
- our ability to defend against legal proceedings;
- success in retaining or recruiting, or changes required in, our officers, key employees or directors;
- the ability to successfully integrate Molekule, Inc.
- the incurrence of unexpected costs, liabilities or delays relating to our merger with Molekule, Inc.
- the risk that goodwill or identifiable intangible assets (including such items recorded with respect to our merger with Molekule, Inc.) could become impaired;
- our ability to successfully consummate acquisitions; and
- other economic, business, competitive, and regulatory factors affecting the businesses of the Company generally, including but not limited to those set forth in Molekule's filings with the SEC, including in the "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of Molekule's latest annual report on Form 10-K, as amended, and other SEC filings.

Forward-looking statements are not guarantees of future performance and involve risks and uncertainties, and actual results may differ materially from

those in the forward-looking statements as a result of various factors. Although we believe that the expectations reflected in the forward-looking statements are reasonable based on information currently available, we cannot assure you that the expectations will prove to have been correct. Accordingly, you should not place undue reliance on these forward-looking statements. In any event, these statements speak only as of the date of this release. We assume no obligation to revise or update any of the forward-looking statements to reflect events or circumstances after the date of this release or to reflect new information or the occurrence of unanticipated events.

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A photo accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/f309a350-86b4-48b4-8d15-7357fa794a8b>

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Source: Molekule Group, Inc.

Molekule Air Pro with PECO-Filter



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