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Product Performance Testing

Thank you for contacting Avomeen Analytical Services for the performance testing of air formaldehyde removal product. Following are the results, methodology, and data associated with our analysis of the sample.

Table 1: Sample description

Sample Name	Avomeen Sample ID
novaerus nv-800 / nv-900 air sterilizer	062415PR6130



Figure 1: Photograph of the Samples "As Received"

Executive Summary

Avomeen's analysis found that the tested device was able to reduce formaldehyde from 100 ppm to around 13 ppm during a 14 hour testing experiment at level 2 setting, as shown in Figure 2 (formaldehyde in ppm vs. hours). This is compared to the fact the concentration of formaldehyde levels in the chamber stayed largely stable over the 14 hour testing period (still >80% at 14 hour time point).

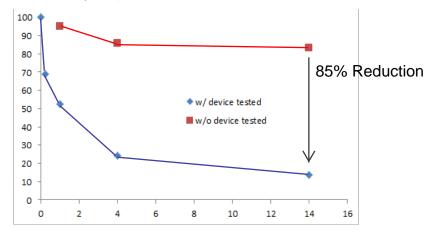


Figure 2: Formaldehyde removal during a 14 hour testing experiment



Analytical Measurements

Chamber Construction

A plexiglass chamber was built for formal dehyde testing. This chamber was also equipped for proper ventilation and interior air circulation.



Figure 3: Plexiglas chamber for formaldehyde removal testing.

Filling the Chamber with Formaldehyde

Calculated amount of formaldehyde solution was evaporated in a aluminum pan heated to 120 degree C with a constant temperature hot plate.

Headspace Derivatization GC-MS

Formaldehyde was testing following the method described in Anal. Chem. 1998, 70, 2311-2320.



Figures

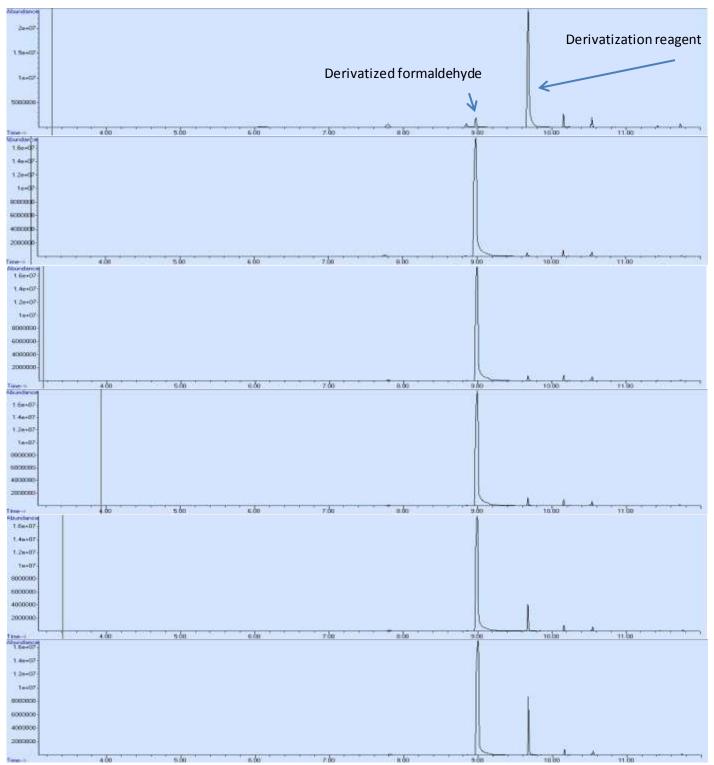


Figure 4: GC-MS TIC chromatograms of formaldehyde testing with testing device operating at speed 2 at serial time points: (from top to bottom) room air before testing, filled with formaldehyde, 15 min, 1, 4 and 14 hours



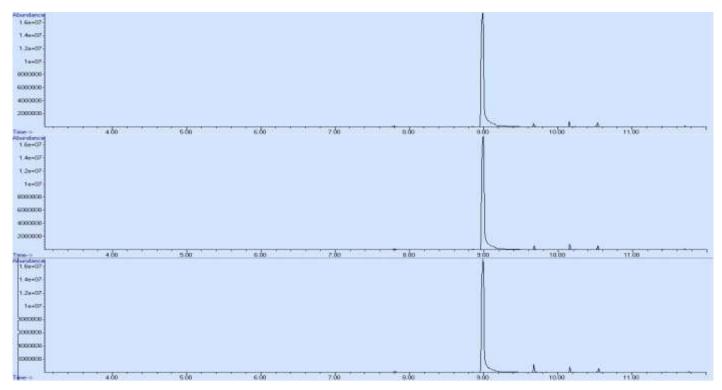


Figure 5: GC-MS TIC chromatograms of formaldehyde testing without testing device at serial time points: 1, 4 and 14 hours.

Description of Instrumentation/Methods Used

Gas Chromatography/Mass Spectrometry (GC/MS): GC/MS testing allows for the analysis of samples along multiple dimensions of chemical properties, providing specific identification of the different compounds separated during the GC analysis. The gas chromatograph separates a complex mixture into its individual components and delivers each one to the mass spectrometer. This analysis generates a chromatogram consisting of different peaks, one for each component of a mixture. The area of each peak is used to measure quantity. GC/MS analysis can be used both for qualitative and quantitative determinations of chemical composition.



Wrap Up

Testing results relate only to items tested. Test report shall not be reproduced, except in full, without approval from Avomeen, LLC in writing.

Thank you for consulting with Avomeen Analytical Services. If you have any questions regarding this analysis, or if we can be of any further assistance, please call us at (800) 930-5450. Following the receipt of this final report, a final invoice indicating the remaining payment will be sent to you. We will safely and securely dispose of all samples and confidential information in our possession in 30 days, unless otherwise instructed by your company.

It has been a pleasure working with you and we look forward to serving you again.

Sincerely,

Avomeen Analytical Services,

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