



Research for Healthy Vacuum Cleaners

(Bioaerosols, Allergens & Ultrafine Particles)

Vacuum cleaners should provide the means for a healthy intervention in the indoor environment by:

- 1 Safely Removing any bio-burdens present, and
- 2 Preventing the introduction of harmful pollutants and particles during this intervention.

With core expertise in the area of preventing ill health due to indoor air pollutants, airmid scientists apply their skills to evaluate the complex interactions of biological and physical properties associated with vacuum cleaner products, and provide customers with a complete solution for healthy living and label claim validation. We have experience in traditional filter based designs, as well as cleaners that incorporate steam, UV, heat and robotic technology.

Ultrafine Particles

A recent study published out of Australia has raised serious concerns as to the safety of many of today's most popular vacuum cleaners. Such was its impact The New York Times published an article highlighting to consumers the potential hazardous nature of ultrafine particles.

That the emission of ultrafine particles, even from Vacuum Cleaners with HEPA filtration, results in consumers being exposed to bacterial fragments and other noxious particulate materials is both of concern and surprise. However, it is of no surprise the composition of household dust and its content of bacteria, viruses, mold and toxins. Of course, exposure has the capacity to induce ill-health!

Our sophisticated research team and facilities have the knowledge to ensure your cleaners are designed and independently tested to limit consumer exposure to ultrafine particle emissions.

Allergen

We recognize the importance of designing research studies that closely replicate what is happening in real-life in the home or indoor space. Our experiments utilize proprietary test dust scientifically proven to have particle size distributions and bio-burden representative of what occurs in a typical indoor space.

Our scientists have the knowledge & expertise to:

- Evaluate removal of allergen-containing test dust from flooring
- Evaluate airborne allergen levels during vacuuming
- Evaluate the integrity of air filtration systems
- Assess performance of the Vacuum Cleaner immediately prior to activation of bag replacement / receptacle emptying signal and filter change signal
- Assess exposure to allergens during bag change or receptacle emptying





Airmid Healthgroup is a world leading Environmental Research, Development & Testing Company, focussing on all aspects of health and air quality indoors.

Research Methodologies

Airmid Healthgroup (AHG) is a world leading Environmental Research, Development & Testing Company, focussing on all aspects of health and air quality indoors. International Standards Organisation accredited (ISO 17025), AHG has the capacity to assess products and services both in the field and at its vertically integrated Dublin facility.

Combining molecular biology with state-of-the-art air sampling and particle counting in a highly sophisticated AC-1 chamber and adjacent microbiology facilities, AHG specialises in measuring both surface and airborne bacteria, molds, allergens, viruses, and other toxic ultrafine particles.

Contract Research

Our Research & Development department are often described by our partners as an extension of their own in-house research departments. We would be happy to discuss your health-related research projects further.

Study Dissemination, Media & Public Relations

An environmental & health assessment of vacuum cleaner technologies is likely to generate data that is publishable given the high relevance of the topic. Should this be appropriate and desired by our clients, airmid healthgroup will assist in research dissemination through relevant media streams, such as scientific journals, industry publications or general interest media.



Our test duct rig system (ASHRAE 52.2 modified) attached to a large AHAM type chamber allows for the assessment of either in-duct or in sequence product performance

Mr Graeme Tarbox
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