

Something's in the Air

...and it ain't love. At least not in the context of this discussion. What's bumping around in our homes and work environments are particles.

What are particles?

Oxford's online dictionary defines a particle as ... "a minute portion of matter", giving the example of "*tiny particles of dust*".



Now to be sure, particles come in an array of sizes and makeup, with some being so small they're actually subatomic, which is way beyond the scope of this article.



What we **are** concerned with are particles of a size and nature that can adversely affect the quality of our indoor air in the built environment. **If you can see it...**think wisps of dust floating in the sunbeams coming through your bedroom window.

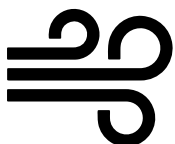
If you can taste it...is that bacon cooking? Mmmmm. **If you can smell it...**what **is** that smell?!?...THEY ARE PARTICLES!

Why a problem in the breathable air?

While some airborne particles may not be problematic (who doesn't like the smell of bacon cooking?), elevated particle counts have long been associated with poor air quality. Often municipalities include some form of particle count information in outdoor air quality reports, along with possible health warnings if they become too elevated.

However, historically there has been far less said about the levels and possible deleterious effects of airborne particles on indoor air quality. Thankfully, that is now changing.

Who's addressing it?



More and more industry leaders, building science experts, and government agencies are addressing the need to monitor and control the level of problematic particles in our indoor air. For example:

- On February 7, 2024, the U.S. Environmental Protection Agency (EPA) announced a final rule to strengthen the nation's National Ambient Air Quality Standards (NAAQS) for fine particle pollution. The following is an excerpt from that news release.
<https://www.epa.gov/newsreleases/epa-finalizes-stronger-standards-harmful-soot-pollution-significantly-increasing>

EPA finalizes stronger standards for harmful soot pollution, significantly increasing health and clean air protections for families, workers, and communities

Stronger standard will yield up to \$46B in net health benefits, save lives, and build healthier communities, while supporting economic growth across America

- In July of 2024 new legislation was introduced addressing the problem of poor indoor air quality. The following is an excerpt from that news release.
<https://tonko.house.gov/news/documentsingle.aspx?DocumentID=4177>

WASHINGTON, DC — Congressman Paul D. Tonko (D-NY) and Brian Fitzpatrick (R-PA) today announced the introduction of their Indoor Air Quality and Healthy Schools Act, bipartisan legislation that would protect the public from poor indoor air quality (IAQ).

While progress has been made to address outdoor air pollution, efforts on indoor air quality have been largely unacknowledged and underfunded. Despite this lack of action on IAQ, studies have shown that indoor contaminants can be 2-5 times—and occasionally 100 times—higher than outdoors.

What can we do about it?

As remediation professionals, it is simply incumbent upon us to acknowledge and address the air quality in any of our remediation and/or restoration projects.

Not only are we seeing an increase in actual legislation to this effect, but more importantly, an increased knowledge and understanding about indoor air quality by both our industry and our customer base, compels us to address this issue if we are to do a complete, effective and quality remediation project.

We need to have products and processes in place that can address not only physically visible contamination, such as mold, soot, other debris, etc., but also effectively improve the air quality, leaving a clean home both of the visible and the invisible.

How can we verify?

Also assisting us in this process is newer technology and reporting systems that allow us to easily identify particulate matter in the air of varying micron sizes and then verify its reduction in post clearance testing. *IAQ Analytics* is one such reporting agency that can give us a pre and post remediation air quality report based on particle count readings and tied to international standards set for air quality by such entities as the ISO, WHO and ANSI, among others.



BEFORE - particle counts per cubic meter and analysis

Location	≥0.5 μm	≥5.0 μm	Time	IAQ Level
Bedroom 2	5939575	219787	1m, 0s	9
Master Bedroom	2159010	72084	1m, 0s	8.5
Bedroom 1	2479151	74204	1m, 0s	8.5
Living Room	3835689	343462	1m, 0s	9.5
Outdoors	2649823	31802	1m, 0s	8.5
Kitchen	3171731	200000	1m, 0s	9

FAIL

No longer do we need to be in doubt as to how effective our air cleaning processes are. We can prove it with science.

AFTER - particle counts per cubic meter and analysis

Location	≥0.5 μm	Reduction	≥5.0 μm	Reduction	Time	IAQ Level
Bedroom 2	403886	93.2%	14487	93.4%	1m, 0s	8
Master Bedroom	235689	89.1%	1413	98.0%	1m, 0s	7.5
Bedroom 1	214487	91.3%	3886	94.8%	1m, 0s	7.5
Living Room	436042	88.6%	13427	96.1%	1m, 0s	8
Outdoors	620848	76.6%	9187	71.1%	1m, 0s	7.5
Kitchen	326855	89.7%	9893	95.1%	1m, 0s	8

PASS

With the appropriate tools, training, and products, restoration and remediation contractors can now position themselves to be on the leading edge of addressing and improving the indoor air quality for projects in our communities. For more information on products and training specifically designed to safely remove airborne particulate matter from the indoor building environment, contact the air quality specialists at www.goldmorrusa.com