Indoor Air Pollution and How to Clean It Up

Airborne pollutants are sneaky. While most household dirt is easy to see, the dirty stuff that mucks up your indoor air is hard to detect. In fact, most houses and apartments have a few air quality issues without telltale signs. When the pollution snowballs, it can spell trouble by making the air in your home bad for your health.

Several recent studies revealed three surprising new sources of indoor air pollution. We share what they are and [the steps you can take to protect your health and home.](https://www.thespruce.com/common-things-you-shouldnt-have-in-your-kitchen-3017226)

Citrus scented candles and cleaning products [make your home smell amazing.](https://www.thespruce.com/creative-ways-to-display-those-beautiful-buds-3017320) The flip side: The chemicals they emit can turn indoor air into a toxic brew.

What's the deal? Limonene, the natural ingredient that gives scented candles and cleaners that fresh lemony smell is a volatile organic chemical. While not all VOCs are dangerous, this one becomes especially harmful when it mixes with ground-level ozone, which is in most homes. Together they form formaldehyde, a carcinogen known to cause cancer.

What can you do to reduce the pollution limonene creates?

First step: Get rid of citrus scented candles and cleaning products that contain the VOC.

* + Keep in mind, the list is not exhaustive. To cover your bases, scan ingredient labels for limonene.

Next: Open your windows and air out your home.

* + You may also want to invest in a few spider plants. Unlike other types of houseplants that can suck VOCs out of the air, the spider plant is particularly useful for reducing airborne chemicals.

Conventional air purifiers boost indoor air quality by filtering common [pollutants like dust and pet dander.](https://www.thesprucepets.com/keep-your-dog-happy-and-your-home-clean-3017378) Electrostatic precipitator air cleaners operate differently. They zap and collect airborne contaminants using an electrical charge that produces ozone. And that's a problem.

When ozone is way up high in the atmosphere where it belongs, it protects us from dangerous ultraviolet rays, which is good. However, when it's ground-level, it becomes a respiratory irritant that worsens allergies and asthma.

[Do you need an air purifier to filter out pollutants?](https://www.thespruce.com/create-allergy-free-home-1391566)

* + If you don't have allergies or asthma and live in a smoke-free environment, regular vacuuming and dusting will improve indoor air quality.
	+ Adding and using an exhaust fan in your kitchen and bathroom will also help.

If you do need an air purifier, you'll get the best bang for your buck if you do a little product research first.

* + The air purifier buying guide on Consumer Reports is a good place to start.

Thirdhand Smoke is No Joke

E-cigs might be less harmful than traditional cigarettes, but they can still dirty indoor air.

The secondhand smoke from both e-juice and tobacco products sticks around for longer than you think. It creates a sticky residue called thirdhand smoke that clings to indoor surfaces according to several major studies.

What makes thirdhand smoke harmful is that it releases the chemical toxins found in secondhand vapor and smoke for days, weeks, months, and yep, in some cases even years after the smoke cleared. Worse, when thirdhand smoke mixes with other airborne chemicals, a good example is a nitrous acid from [cooking](https://www.thespruce.com/more-storage-and-counter-space-in-a-small-kitchen-3017406) gas, it becomes even more harmful for you to inhale.

Can You Remove Thirdhand Smoke?

Can you remove thirdhand smoke? The truth is, yes and no.

The first step: Test for thirdhand smoke damage.

* + For tobacco toxins, you can use a nicotine surface test. [This one is free, but the lab fee will cost you around $80.](http://www.emsltestkits.com/#!nicotine/c10qw)
	+ There's no test at this time for e-cig toxins, but researchers are on it. Several studies abare in the works, and more information will be available by 2018.

Next: Remove the thirdhand smoke.

* + Here's the thing, thirdhand smoke seeps into porous surfaces, which can make it impossible to remove. If you've been smoking inside your home for years and years, The Foundation for a Smoke-Free America says replacing porous surfaces, which includes upholstery, carpet and drywall is the best way to go.
	+ However, if replacing your drywall is cost prohibitive, you can apply a protective coating that stops or, at least, limits off-gassing. The best one for the job is called Foster 40-20. It's an EPA-registered antimicrobial coating that you apply like a paint primer. A five-gallon container costs $300. This stuff is wicked tough. HVAC professionals use it to stop the spread of mold.
	+ Before using Foster 40-20, you'll need to wash your walls and ceilings.

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