

## “GREEN” CLEANING PRODUCTS FLUNK TOXICITY TEST<sup>1</sup>

Leah Zerbe<sup>©</sup>

Most companies don't want you to know what's in their scented consumer products, and they do a good job at keeping that information a secret. That is, until Anne Steinemann starts snooping around. Steinemann, a PhD and professor of civil and environmental engineering at the University of Washington, might as well be dubbed the lead detective of the fragrance police, thanks to her efforts over the last few years in disclosing toxic chemicals in everything from laundry detergent and dryer sheets to shampoo and air fresheners. Her latest report finds that even household products that are marketed as natural or "green" in fact contain harmful volatile organic compounds (VOCs) that have been linked to migraines, asthma attacks, seizures, and even loss of consciousness in the past. The report appears in the *Environmental Impact Assessment Review*.

**THE DETAILS:** In the study, Steinemann and colleagues studied the VOC emissions from 25 popular fragranced products, including detergent, dryer sheets, fabric softener, soaps, hand sanitizer, lotions, deodorant, shampoo, baby shampoo, cleaners, dish detergent, and air fresheners. "Of all the products tested, there's not a single one I think is safe," Steinemann says. Specifically, researchers found that nearly half of the tested fragranced products emitted carcinogens. Of the 133 different chemicals detected, about 25 percent were classified as toxic or hazardous.

Citrus-scented limonene was the most common emission, and Steinemann contends that both the natural and lab versions of this chemical release VOCs. When limonene reacts with ozone in the air, it creates formaldehyde. Pine scents and acetone, a solvent found in nail polish remover, were also detected. "We don't know about intentionality, but we do know that they're in products," says Steinemann, noting that their presence could be a result of solvents or other petrochemical-based ingredients.

Steinemann says she doesn't disclose the names of the products she's tested because she doesn't want people to think that other brands she didn't test are safe. She would have released the names of the few bad actors, except that across the board, she found they all emit seriously toxic compounds.

**WHAT IT MEANS:** Since Steinemann started studying synthetic fragrances in consumer products years ago, thousands of people have contacted her, recounting horror stories. Many already know they can't tolerate chemical fragrances, but they become ill when subjected to secondhand scents from other sources. Steinemann thinks we will someday think of this health issue the way we now view secondhand cigarette smoke. "People have lost their jobs, their families, their homes because of these products," she says. For instance, one family had to move because the neighbor refused to stop using scented laundry products. A 3-year-old toddler suffered seizures every time the neighbors did laundry and toxic chemicals poured out of the dryer vent.

There was also the flight attendant that had to give up long flights. If she used the bathroom, full of heavily scented soaps and deodorizers, she passed out. Others had to quit their jobs because

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the company refused to give up scented cleaners and bathroom soaps. These people are not out of the ordinary, either. Steinemann found through previous research that nearly 40 percent of Americans report adverse effects when exposed to some type of fragranced product; 20 percent report breathing difficulties, headaches, or other health problems when exposed to air fresheners or deodorizers. Ten percent suffer immediate sickness from scented laundry products. (Asthmatics are twice as likely to suffer problems from scented products.)

Here's how to avoid harmful fragranced products and save megabucks in the process:

**Initiate a family detox.** Don't assume that you're not being exposed to these toxins because you don't feel any effects. There's a phenomenon called masking, in which your body gets used to toxic chemical exposure, so you don't realize it's hurting you, explains Steinemann. "People are overexposed to these chemicals. They don't realize they're injuring themselves." For starters, nix personal-care products—soaps, shampoos, and grooming products that come into direct contact with your skin—containing toxic ingredients. They appear on the label as "fragrance," "perfume," "parfum," "limonene," "d-limonene," and "linalool."

**Go unscented and plant-based.** Steinemann warns that products and detergents containing essential oils also contained toxic substances in tests, possibly a result of the oils' being extracted with solvents. Previous research found cold-pressed oils are much safer, however, this method isn't economically feasible for most companies to use. Unscented products may leave out toxic fragrance ingredients, but petroleum-based ones could contain other contaminants. So always opt for plant-based and unscented whenever possible. An unscented castile soap is likely your best bet, Steinemann says.

**Make your own cleaners.** Rodale.com's Nickel Pincher says making your own effective laundry cleaner is easy. Use anywhere from a tablespoon to a quarter cup of washing soda or borax in the main wash for front-loading washing machines, twice that amount for top loaders. Then, use a half-cup of white vinegar in the rinse cycle. Be sure to always have white vinegar, baking soda, and hydrogen peroxide on hand to mix up green cleaning recipes that really work.

**Tow the line.** For an extra level of nontoxic germ-killing, be sure to line-dry your washed clothing. The UV power of the sun can even help blot out stains, reducing your need for toxic cleaners. Just be sure to put the stained area sun-side up. By the way, don't buy into the need for dry cleaning—avoid toxic solvents and clean everything at home.

**Clear workplace air.** If bathroom soaps, air fresheners, and your cubicle-neighbor's perfume are making you ill at work, reach out to HR or your boss and share the U.S. Centers for Disease Control and Prevention policy with them. The agency actually adopted an indoor environmental quality policy for all of its buildings. If someone shows up wearing overwhelming Old Spice, you can bet they'll be sent home to change: Fragrances are not permitted.