

Why Are Dangerous Chemicals Used to Give Clothes a Scent?

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✓ Fact Checked

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STORY AT-A-GLANCE

- › In his first documentary film production, Jon Whelan presents overwhelming evidence showing dangerous chemicals are added to clothing and other products by design, to reduce cost and increase profits
- › The scent wafting from your clothing is the result of fragrances added to reduce the obnoxious scent of synthetic clothing; since fragrance is not regulated, manufacturers are free to add any toxic chemicals to achieve their goals
- › Although Europe practices precautionary principles, the U.S. assumes chemicals are safe until proven otherwise. Unfortunately, it may take many years before science can prove a toxin triggers negative health effects, unnecessarily exposing you to danger
- › Laundry detergent, fabric softener and dryer sheets also add fragrance to your clothing, much of which may be vented to your neighborhood through your dryer, contributing to declining air quality

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In his first documentary film production, Jon Whelan, single dad after his wife died from breast cancer, presents overwhelming evidence that dangerous chemicals are added to products by design. As he discusses in this interview about his documentary "Stink," available on Netflix and YouTube, fragrances and scents are a dangerous, yet purposeful addition to products you use daily.

Your sense of smell is one of the most primal of your five senses. It is a key to survival, is often the first warning of safety or danger and is linked to memory. In fact, a powerful attraction to fragrances is manipulated by advertisers and marketers in order to sell clothing, **personal care products** and laundry products.

You can recognize up to 10,000 different smells and, according to Dr. Stuart Firestein of Columbia University, this system is very closely connected to the limbic system, said to contain your most basic drives.¹

A study² in 2015 published in Chemosensory Perception investigated how odor-evoked memories influence consumers' perception of a product. Researchers found fragrances evoking stronger personal emotional memories were preferred by the study participants.³

It is not surprising scent is powerfully connected to emotion and memory and drives buying decisions. Unfortunately, companies add toxic fragrances to mask the odor of noxious chemicals and as scent branding to acquire new customers and keep customers.

Smelly Pajamas Led to Documentary Film

The documentary film, "Stink," was triggered when Whelan purchased a pair of pajamas from the children's clothing company Justice⁴ for his daughter. After opening the package, he found a weird smell. Whelan called the company to be sure the clothing was safe, but was stonewalled by company representatives.

Returning to the store, he found all of the packaged pajamas had the same odor. At this point he decided to tape the conversations he had with Justice and other companies, and began delving into the addition of chemicals to clothing and personal care products.

In a telling conversation with Procter and Gamble,⁵ manufacturer of a long list of cleaning and personal care items, including Crest toothpaste, Dawn dish soap, Pampers diapers, Tide laundry detergent and Pantene shampoo, the representative claimed they

didn't add a carcinogenic chemical to their products, it was just "there."⁶ Here's a transcript of the conversation Whelan had:

Whelan: *"I read an article online yesterday and it said something that if it has a chemical in it called 1-4-dioxane it might cause cancer. I just wanted to be sure that it's not true."*

Representative: *"It's not something we add to the product, OK, it's something that's in the product."*

Whelan: *"Can you tell me who adds it then?"*

Representative: *"Pardon me?"*

Whelan: *"You said you didn't add it. I was wondering who does add it?"*

Representative: *"It's in all of the ingredients. You know what I mean?"*

Whelan: *"No I don't."*

Representative: *"OK, OK, how can I say this. . . you know if you do 1,200 loads of wash a day, it's still at a safe level."*

As with exposure to many different toxins, one exposure at a low level may not trigger an immediate health condition, but what about repetitive or chronic exposure? Imagine smoking one cigarette and claiming the product had no health effects since you didn't immediately get sick. The effect from toxins is cumulative, and can add up quickly when you're exposed to chemicals in your food, furniture, air and clothing, all at once, and on a daily basis.

Whelan believes if the legislature won't ban a chemical regulators know causes cancer, then it may be nearly impossible to fight for transparency and health protection against a highly-motivated and richly-funded industry destined to forfeit profits if they are forced to stop using cheaper, damaging and dangerous chemicals.

For instance, scientists and regulators know the dangers to consumers from asbestos. This material, used for insulation for decades, is known to trigger the development of mesothelioma.

Dangerous Endocrine Disruptor Chemicals

Whelan uses the example of endocrine disrupting chemicals in his documentary, stating exposure to these has an inverted dose response curve. In other words, the danger is higher with lower level exposure over long periods of time. Your exposure occurs with use of personal care products, food packaging materials and clothing.

Vague arguments and claims have been used to dispute reports showing the use of toxic chemicals may be poisoning adults and children, causing damage beginning even before birth. Following an op-ed piece in The New York Times by Nicholas Kristof, the industry-friendly American Council on Science and Health claimed Kristoff would have flunked eighth grade science, saying:⁷

“Look at all these lethal things: toothpaste, soap, shower curtains. It's amazing we all aren't dead yet. Mr. Kristof's 'research' – if you can even call it that – relied heavily on well-known anti-science activists, such as the Environmental Working Group. Mr. Kristof has demonstrated time and again that he is entirely ignorant of the basic principles of chemistry and toxicology.”

However, the American Academy of Pediatrics (AAP), a group of over 65,000 well-educated and science-based pediatricians in the U.S., agree with Kristoff and are asking parents to limit their children's exposure to endocrine disrupting chemicals found in plastic. They warn these chemicals, such as phthalates, nitrates and bisphenol, may damage children's health for years to come.

Research from the World Health Organization (WHO) has even suggested a ban on endocrine disrupting chemicals may be needed to protect the health of future generations.⁸ Their research is one of the most comprehensive studies on different disrupting chemicals to date.

Dr. Leonardo Trasande,⁹ an expert in children's environmental health, believes children are more susceptible due to their dose exposure. And, as noted by Dr. Claire McCarthy, pediatrician at Boston Children's Hospital,¹⁰ "Because the exposure is small and gradual we don't even realize it's happening."

Fighting to Keep Chemicals in Your Products

Whelan believes the solution should be mandatory transparency so companies would make better decisions about what they use in their products and consumers could make informed decisions about what they buy.

Instead, companies are operating under the honor system set up by the U.S. Food and Drug Administration (FDA)¹¹ while fighting to keep cheap chemicals in their products so they can be made inexpensively, thereby protecting profits.

Unfortunately, the public pays for these cheaper products on the back end by spending thousands treating diseases triggered by overexposure to chemicals, which can build up in your system when you're exposed to multiple products, such as personal care items, new furniture and carpeting and even clothing.

Whelan points out the world knows formaldehyde causes cancer, yet manufacturers are not removing it from their products. In fact, the U.S. was caught using products with heavy levels of formaldehyde in environmentally damaged areas.

For instance, trailer homes deployed by the Federal Emergency Management Agency (FEMA) along the Mississippi Gulf Coast after Hurricane Katrina were found to emit high levels of formaldehyde gas. In testing, 519 trailer and mobile homes were nearly 40 times customary exposure levels, triggering breathing difficulties, nose bleeds and persistent headaches.¹²

Prop 65 Mandates Labeling Federal Government Doesn't Regulate

California has taken a more proactive approach to the health of their citizens. In a study spearheaded by the Environmental Working Group,¹³ researchers found 287 chemicals in the cord blood of newborns. These babies were essentially born pre-polluted before ever consuming a single manufactured product.

In 1986 California voters approved an initiative best known as Proposition 65, requiring the state to publish a list of chemicals known to cause cancer or birth defects. Since it began, it includes nearly 800 chemicals, and manufacturers are required to notify consumers when these chemicals are included in their product.¹⁴

According to the American Cancer Society,¹⁵ the risk of developing cancer was 40% in men and nearly 37% in women as of 2014. Their global cancer facts and figures suggest this number will grow to 50% by 2030.¹⁶

Europe Practices Precautionary Principles; the US Does Not

In the documentary, Whelan reveals the American Chemistry Council spent \$121,000 per congressman to assist election campaigns. The influence pays dividends since it requires legislative action to alter the current status where manufacturers release chemicals under an honor system requiring proof chemicals are safe for consumer use prior to distribution.

Currently, the U.S. does not use precautionary principles, but rather acts under the assumption chemicals are “innocent until proven guilty.” The opposite is true in Europe, where if a chemical is suspected dangerous, it’s phased out.

However, proving guilt is nearly impossible in the short term as these chemicals often accumulate over years in your body before effects are noticeable. This works to the advantage of the industry. For example, one of the world’s most popular chemical weed killers, Roundup, made by Monsanto (now Bayer), has been on the market since 1974.¹⁷

After 45 years on the market, Monsanto was ordered to pay \$289 million when a jury found Dwayne Johnson’s non-Hodgkin lymphoma was at least partly triggered by

glyphosate in Roundup, to which he was exposed as a school groundskeeper.¹⁸ The judge upheld the guilty verdict but later reduced the damages to \$78 million.¹⁹

After the verdict, the presiding judge, Suzanne Ramos Bolanos, commented the company²⁰ "acted with malice, oppression or fraud and should be punished for its conduct." In the past, Monsanto had sued California's Office of Environmental Health Hazard Assessment for adding **glyphosate** to their Proposition 65 list of cancer causing chemicals, and lost.

In the process of filming the documentary, Whelan did not receive a response to a question he posed to manufacturers: "What are the consumer advantages of buying products with hidden chemicals that cause cancer and birth defects?" He believes a safe compromise is transparency, allowing consumers to decide what exposure they will endure.

Secondhand Fragrances

It isn't only the chemicals in the products you purchase to which you are exposed. Secondhand fragrance contamination is a public health concern as 30.5% of the general population find smells irritating and another 19% experience adverse health effects from air fresheners.²¹

Thirty years ago the issue was secondhand smoke, but today scent from perfume, air fresheners, scented laundry products and numerous other products on which fragrances are used are triggering health issues. Reactions to these fragrances created in the laboratory may include:^{22,23}

Weakness	Hay fever symptoms	Dizziness
Confusion	Headaches	Muscle aches/spasms
Heart Palpitations	Mucosal symptoms in eyes and airways ²⁴	Gastrointestinal problems

Vomiting, Nausea	Asthma attacks	Neurological problems
Seizures	Contact dermatitis ²⁵	Breathing and respiratory difficulties

The chemical cocktails in fragrances are often toxic as they are derived from petroleum and coal tar, and not made from the essential oils of flowers or sweet smelling plants. As soon as you smell an air freshener, scented candle or laundry detergent, you have already absorbed the chemicals into your body as they enter through your lungs.

Even when you no longer smell the fragrance, you're still absorbing the chemicals through your clothing, bedding and towels. Some synthetic fabrics have unpleasant odors, prompting manufacturers to cover them with masking fragrances.²⁶ Secondhand fragrances are difficult to avoid as most public places use some type of air freshener, and make available scented hand soaps.

Although the number could potentially be falling, 85% of women wear perfume²⁷ and over 60% of men use cologne and aftershave.²⁸ A small number of schools, colleges, businesses and hospitals have enacted fragrance-free policies.

Are You Releasing Volatile Organic Compounds Into the Air?

The scent and chemicals manufacturers add to your clothing aren't the only ways toxic chemicals are released. Since fragrances are essentially an unregulated market and manufacturers are working on the "honor system," it's not possible to find information on product labels about exposure to dangerous chemicals. Fabric softeners and dryer sheets are one such fragrance-laden product.²⁹

One University of Washington scientist, Anne Steinemann, Ph.D.,³⁰ professor of civil and environmental engineering and public affairs, has done a large amount of research into what chemicals are released by laundry products,³¹ air fresheners, cleaners, lotions and other fragranced consumer products.³²

One study focused on chemicals emitted through laundry vents during typical use of fragranced products, and was published in *Air Quality, Atmosphere and Health* in 2011. Steinemann found the following dryer vent emissions from 25 of the most common brands of scented laundry products:³³

- More than 600 volatile organic compounds (VOCs) were emitted, and only two of those compounds were listed on any associated material safety data sheet. None of the chemicals were listed on any of the 25 product labels.
- Two of the VOCs (acetaldehyde and benzene) are considered by the U.S. Environmental Protection Agency (EPA) to be carcinogenic and unsafe at ANY exposure level.
- Seven of the VOCs are classified as "hazardous air pollutants."
- The highest concentration of emitted VOCs was acetaldehyde, acetone and ethanol.
- Only 25% of the VOCs were classified as toxic or hazardous under federal laws.

Virtually none of the VOCs detected in her study were listed on product labels or the product's material data safety sheet. Instead, labels listed only general categories, such as "biodegradable surfactants," "softeners" or "perfume." Even more disturbing, the "greener" products were just as bad, if not worse, than the conventional products.

Sources and References

- ¹ [New York Times, May 14, 2000](#)
- ² [Chemosensory Perception, 2015;8\(1\)](#)
- ³ [Psychology Today, June 29, 2015](#)
- ⁴ [Justice](#)
- ⁵ [Procter and Gamble, Brands](#)
- ⁶ [YouTube, STINK! Documentary Exposes Chemical Cancer in Products](#)
- ⁷ [American Council on Science and Health, March 3, 2018](#)
- ⁸ [World Health Organization, February 19, 2013](#)
- ^{9, 10} [American Academy of Pediatrics, July 23, 2018](#)
- ¹¹ [FDA, Fragrances in Cosmetics](#)
- ¹² [NBC News, February 14, 2008](#)
- ¹³ [Environmental Working Group, Body Burden: The Pollution in Newborns](#)
- ¹⁴ [OEHHA, February 1, 2013](#)

- ¹⁵ American Cancer Society, Lifetime Risk of Developing or Dying From Cancer
- ¹⁶ American Cancer Society, Global Cancer Facts and Figures
- ¹⁷ National Pesticide Information Center. Glyphosate
- ^{18, 20} USA Today, August 10, 2018
- ¹⁹ Jurist.com October 23, 2018
- ²¹ Journal of Environmental Health, Prevalence of Fragrance Sensitivity in the American Population, March 2009
- ²² Preventive Medicine Reports, Health and Societal Effects From Exposure to Fragranced Consumer Products, November 14, 2016
- ²³ Health Care Without Harm US & Canada 2018
- ²⁴ Clinical and Experimental Allergy, January 2005
- ²⁵ American Journal of Clinical Dermatology 2003
- ²⁶ University of Nebraska, Perfumed Textiles, 2008
- ²⁷ New York Times, February 14, 2008
- ²⁸ The NPD Group, Report on Men's Fragrance Usage, 2013
- ²⁹ Environmental Health Perspective, 2011;119(11):a474
- ³⁰ Dr. Steinemann, Publications
- ³¹ Science Daily, August 24, 2011
- ^{32, 33} Steinemann, published in Air Quality, Atmosphere and Health, 2011