



ELITE

Personal Training and Fitness Solutions

# HEALTH TOPIC OF THE WEEK

## 3/20 - Pull Out and Replace Those Plug Ins

### Introduction

Who doesn't love walking into a room and smelling a fresh, clean scent? I know I do. The scent is often delivered by a plug-in device, which is heat activated to release a nice smell. But what ingredients contribute to that good smell? And are there any problems with plug-ins? It turns out there are plenty. This article will elaborate.



Although they are inserted into a socket and not sprayed, the chemicals in plug-ins can still be inhaled or absorbed through the skin once the fragrance molecules disperse. When the Natural Resources Defense Council (NRDC) randomly tested 14 different air fresheners, it discovered that 12 of them (86%) contained chemicals associated with birth defects, hormonal abnormalities, and reproductive problems. Surprisingly, some products marketed as "unscented" or "all-natural" contained hazardous chemicals.



### Hazardous chemicals in plug-in air fresheners:

### Phthalates

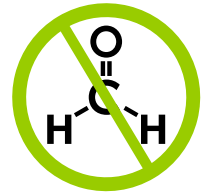
Phthalates aren't a single chemical. They're an entire family of them. And like most families, they don't all behave the same way. Phthalates (pronounced thahl-lates) are endocrine disruptors. They alter hormone levels, interfere with testosterone, and contribute to birth defects. They can also cause asthma and allergic reactions. Studies in animals show links to kidney and liver toxicity. Phthalates are especially dangerous because they can penetrate the skin and enter through the nasal cavity. In their testing, the only two air fresheners that the NRDC found free of phthalates were Febreze Air Effects Air Refresher and Renuzit Subtle Effects.



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## Formaldehyde

Formaldehyde is a carcinogen. Besides being used in air fresheners, this colorless, flammable chemical is used to produce a variety of household products like permanent-press fabrics, glues, particle board and plywood. Formaldehyde has been linked to both throat and nose cancer. It causes chronic irritation of the airways, which can lead to nosebleeds, infections, asthma and other respiratory problems.

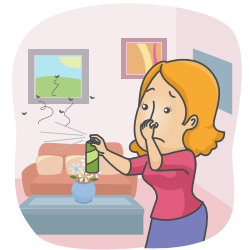


A study published in the International Journal of Public Health in 2013 revealed that pregnant women who had used air fresheners were significantly more likely to have babies who suffered from wheezing and lung infections.



## Naphthalene

Lab studies conducted on rats have found that naphthalene can cause tissue damage and cancer in the lungs. While it's still being explored, experts believe that it likely causes similar effects in humans. Naphthalene is used in the manufacture of plastics, resins, fuels, and dyes. It is also used as an insecticide, as the main ingredient in mothballs and as a snake repellent. Do you really want this chemical in your plug-in air freshener?



## Volatile Organic Compounds

These compounds have a low boiling point, which forms a vapor at room temperature. While this makes VOCs good for dispersing scents, they also come with risks.

Many air fresheners contain a particular volatile organic compound known as 1,4-dichlorobenzene. This compound is a registered pesticide. Dichlorobenzene is also used as a degreaser for auto parts and as a toilet tank deodorizer. When used in plug-ins, dichlorobenzene works by attacking the receptors in the nose, which eliminates the sense of smell. This explains why air fresheners seem to "freshen" a room – the makers of these products are destroying their customers' sense of smell!



Dichlorobenzene damages the mucous membrane. While the effect is believed to be temporary, there have been no long-term studies to test the effects of chronic exposure. This chemical has also been the reason behind the death of many pet birds, with the birds passing away shortly after air fresheners were used near their cage.



## No Amount is Really Safe

You might think that using plug-ins occasionally won't do any damage. However, a 2006 study showed that exposure as little as once a week may increase a person's odds of developing asthma by as much as 71% and can also contribute to a higher rate of pulmonary disease.



## No Regulations

Most people assume that these products are required to go through rigorous safety testing before they are sold. Not so. The industry is self-regulated, which means it isn't regulated at all. Chemical companies don't need any type of permission from an authoritative body before they can sell their air fresheners.

## Labels & Ingredients

We are always advised to read labels. Good luck with that when it comes to plug-ins. Most labels have vague terms like "fragrance" or "odor eliminator." In preparation for this article, I checked the labels for Air Wick Linen Fresh and Glade Clean Linen. I was surprised to see the same formula. Both said: SCJ Product Formula 35\*36442. Contains fragrance. Contains fragrance allergens. How informative. Companies are legally allowed to keep fragrance ingredients confidential. They're considered trade secrets by the FDA. This is why air freshener packaging contains little to no information about what's inside.



## The Bottom Line

Please don't compromise your health to have a good smelling room. Check out these alternatives.

1. Scent Fill - <https://scentfill.com>

- 100% natural ingredients
- No artificial colors or dyes
- 17 scents available

2. Envirocent - <https://envirocent.com/>

- Nontoxic
- Liquid free
- Made with essential oils
- Provides access to ingredients & safety data



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### 3. Essential oils from reputable companies

- Fragrances are chemical compounds that have pleasant odors.
- Essential oils are naturally occurring oils obtained from plants.
- The label should say "100 percent pure essential oil". If it says "essence oil," that's not a pure essential oil but typically a premixed blend of essential oil(s) in a base of carrier oil.
- Look for words like organic, wildcrafted, unsprayed, chemical-free and pesticide-free.



This article was contributed by Colleen Kaufman, EPT's Office Manager and Financial Analyst.

### References

- The Hidden Health Hazards of Plug-In Air Fresheners <https://www.indoordoctor.com/blog/health-hazards-plug-air-fresheners>
- Natural Resources Defense Council: Protect Your Family from the Hidden Hazards of Air Fresheners <https://www.nrdc.org/sites/default/files/fairfresheners.pdf>
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