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The danger of air fresheners in your car

Those little scented trees dangling from the car mirror may seem innocuous enough. But, are they? In 2017, the global car air freshener market was valued at over two billion U.S dollars. It is safe to say that they are widely used and accepted. However, the air fresheners many people use to change their car's smell can emit unwanted, and sometimes dangerous chemicals. These are called volatile organic compounds, or VOCs. They are emitted as gases and include a variety of different chemicals, such as acetone, benzene, formaldehyde, etc. Although they are found in many different household products, including paints and varnishes, air fresheners emit the most.

A study published in the *Air Quality, Atmosphere & Health* journal analyzed the emissions of twelve different car air fresheners, including vent clips, wraps, hanging ornaments, cans, and sprays, using the techniques of gas chromatography and mass spectrometry. They attempted to find potentially hazardous compounds, compare emissions between supposedly "natural" and regular versions, and evaluate whether the ingredients were made known.

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Results reveal the air fresheners emitted a total of 546 VOCs, with 30 of these categorized as potentially hazardous. Shockingly, every air freshener emitted one or more potentially hazardous compounds. There was no notable difference found between the emissions of “natural” and regular air fresheners. Of all the 546 compounds found to be emitted, less than two percent of all VOCs, and none of the potentially hazardous VOCs, were listed on the product labels.

The small enclosed breathing space inside vehicles means there is little air circulation and the particles contained in the car will be absorbed by the occupants. VOCs have many negative impacts on human health, depending on the vulnerability of the person exposed. Some symptoms related to short-term exposure include: headaches, dizziness, eye and respiratory tract irritation, visual disorders, and memory impairment. Other long-term symptoms include: allergic skin reactions, nausea, fatigue, vomiting, nosebleeds, difficulty breathing, and damage to the liver, kidney, and central nervous system. Among the VOCs found to be emitted by the air fresheners, benzene and formaldehyde are especially worrying, given that they have been linked to cancer. Also, dichlorobenzene exposure has not only led to reductions in lung function, but also reduced function of the liver, kidneys, eyes, and organs of developing embryos and fetuses.

Using air fresheners is harmful to our health. Given the fact that many people prefer a fragrance-free environment, we should practice more healthy alternatives. Simply throwing out any trash or smelly items from the car, frequently vacuuming, dusting and cleaning the interior, including opening the windows and airing the car out is one possible solution. For those who still want a natural fragrance in their cars, there is the possibility of making your own natural freshener. Sachets filled with dried herbs or flowers such as lavender can be hung on the car mirror and using a homemade spray



containing pure essential oils are two ideas. Note that some people cannot tolerate essential oils.

References:

- Volatile chemical emissions from car air fresheners, by Anne Steinemann, et al., published August 4, 2020, <https://link.springer.com/article/10.1007/s11869-020-00886-8>
- Volatile Organic Compounds' Impact on Indoor Air Quality, US EPA, <https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality>
- Research Summary: Volatile Organic Compounds and Air Fresheners, by Juan Reynoso and Parichehr Salimifard, <https://buildingevidence.forhealth.org/research-summary/volatile-organic-compounds-and-air-fresheners/>
- Air Fresheners: Are They Safe?, by Karen D. Dominguez, <https://www.poison.org/articles/air-freshener-171>
- Indoor Environmental Quality: Chemicals and Odors, NIOSH Workplace Safety and Health Topic, <https://www.cdc.gov/niosh/topics/indoorenv/chemicalsodors.html>
- Car air freshener market value forecast worldwide 2017-2024, Statista, <https://www.statista.com/statistics/1018054/car-air-freshener-market-value-forecast-worldwide/>
- 6 Natural Alternatives to Chemical Air Fresheners, by Shilo Urban, <https://www.organicauthority.com/live-grow/natural-alternatives-to-chemical-air-fresheners>