



# Fragranced Laundry Products and Air Quality Factsheet for the United States

**Just as outdoor air pollution can be harmful, indoor air can also contain harmful pollutants. Sources of indoor pollutants include everyday consumer products such as fragranced laundry products. Some chemicals used in these products can pose health risks, even in very small amounts. In this factsheet, we discuss potential hazards of fragranced laundry products and what can be done to reduce our exposure.**

## Background

Exposure to fragrance from laundry products has been associated with adverse health effects such as asthma attacks and migraine headaches. Our research investigated emissions of fragrance chemicals from residential dryer vents. We compared concentrations of chemical emissions when both fragranced and fragrance-free laundry products were used, and measured improvements in air quality gained by switching from fragranced to fragrance-free products.

## What are the possible hazards?

- Fragranced laundry products can contain hundreds of chemicals.
- Some chemicals used in fragranced laundry products are classified as potentially hazardous.
- Also, some chemicals (e.g. limonene) can generate air toxics, such as formaldehyde.

## Why are the hazards hidden—aren't all ingredients listed on the label?

- Fragranced laundry products are not required to disclose all ingredients, and typically do not.
- Fewer than 10% of all ingredients are generally disclosed on product labels, safety data sheets, or elsewhere.
- Our analysis of fragranced laundry products found common chemicals were limonene, eucalyptol, alpha-pinene and acetaldehyde.



*Image: Examples of fragranced laundry products*

## Are “green” or “natural” fragranced laundry products any better?

- Not necessarily.
- Emissions of potentially hazardous chemicals from “green” fragranced laundry products were similar to those from regular varieties.
- Claims of “green”, “natural” or “organic” are unregulated and typically unsubstantiated.

## How can fragranced laundry products affect our health?

- Surveys of the US population reveal that exposure to fragranced laundry products is associated with adverse health effects.
- For example, 13% of the US population report health problems such as migraine headaches, asthma attacks, dizziness and breathing difficulties.
- Also, 29% of asthmatics report health problems, such as asthma attacks, from the scent of laundry products from dryer vents.



Image: Air quality monitoring equipment used in the study

## What can be done to reduce risks and improve indoor air quality?

- Using fragrance-free laundry products can help reduce emissions of hazardous air pollutants.
- Concentrations of fragrance chemicals in dryer vent emissions can be substantially reduced (up to 99%) by switching from fragranced to fragrance-free laundry products.
- Indoor air quality can be improved by using products without fragrance.

## References

- Goodman N, Nematollahi N, Agosti G, Steinemann A. 2020. Evaluating air quality with and without air fresheners. *Air Quality, Atmosphere and Health* 13(1):1-4.
- Nematollahi N, Kolev SD, Steinemann A. 2019. Volatile chemical emissions from 134 common consumer products. *Air Quality, Atmosphere & Health*. 12(11):1259-1265.
- Steinemann A, 2019. International prevalence of fragrance sensitivity. *Air Quality, Atmosphere & Health*. 12:891-897.
- Steinemann A, 2019. Ten questions concerning fragrance-free policies and indoor environments. *Building and Environment*. 159:106054.
- Steinemann A. 2018. Fragranced consumer products: effects on asthmatics. *Air Quality, Atmosphere and Health* 11(1):3–9.

## Credits

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## About the CAUL Hub

The Clean Air and Urban Landscapes Hub is part of the Australian Government’s National Environmental Science Program. The remit of the CAUL Hub is to undertake “Research to support environmental quality in our urban areas”. This includes research on air quality, urban greening, liveability and biodiversity, with a focus on practical implementation of research findings, public engagement and Indigenous Australian participation. The CAUL Hub is a consortium of four universities: the University of Melbourne, RMIT University, the University of Western Australia and the University of Wollongong.