

Cleaning your car may not protect you from this carcinogen

January 26 2022



COVID-19 mask hanging from rearview mirror could serve double duty to protect commuters from airborne flame retardants coming from car seats.
Credit: Ivan Radic

It is unlikely that a cancer-causing chemical inside your car can be dusted or wiped away, according to new UC Riverside research.

This finding has now been published in the journal *Environmental Research*. It follows on the heels of a related [study](#) showing the longer your commute, the more you're exposed to this [chemical](#).

TDCIPP, or chlorinated tris, is a chemical flame retardant widely used in automobile seat foam. In addition to being on California's Prop. 65 [list](#) because it is carcinogenic, UCR environmental toxicologist David Volz has found that TDCIPP prevents zebrafish embryos from developing normally. Other studies have associated it with infertility in certain women.

Some research suggests that dust removal could lead to lower exposure to chemicals. Volz and his colleagues hoped that was true for car interiors.

The researchers divided nearly 50 study participants, all of them heavy commuters, into four groups they tracked for two weeks. One group did not wipe dust in their cars at all, another wiped the dust both weeks, and two other groups wiped for only one of the two weeks.

All participants were given [silicone wristbands](#) to wear continuously during the two-week testing period. The molecular structure of silicone makes it ideal for capturing [airborne contaminants](#) such as TDCIPP.

"Going into this, our hypothesis was that the no-wipe group would have the highest concentration, the two-week wipe group would be lower, and the partial wipe groups would be somewhere in between," Volz said.

"But what we found was that there was basically no difference between

any of the groups."

Previously, the researchers assumed that commuters' primary exposure to TDCIPP is through contaminated dust. One possible explanation for this study's result, Volz said, was the possibility that TDCIPP is not coming from dust that can be cleaned. Instead, it could have moved directly from car seats into wristbands in gas or aerosol form.

"This result suggests [dust](#) may not be the primary route of exposure," Volz said. "Dust is definitely something compounds like TDCIPP attach to, however, we can't rule out that people are just inhaling airborne compounds."

Another possibility is that the flame retardant is coming in through the air vents from outside, but the researchers do not think this scenario is likely.

Until there is more data, Volz has a suggestion for concerned readers.

"Outside of a major policy change that replaces TDCIPP with something else, it might not hurt to wear a mask in your car," Volz said. "Just like wearing a mask mitigates COVID-19 transmission, so too would aerosol-phase flame retardants be mitigated. N95s are probably best for this purpose."

More information: Aalekhya Reddam et al, Partial dust removal in vehicles does not mitigate human exposure to organophosphate esters, *Environmental Research* (2021). [DOI: 10.1016/j.envres.2021.112525](https://doi.org/10.1016/j.envres.2021.112525)

Provided by University of California - Riverside

Citation: Cleaning your car may not protect you from this carcinogen (2022, January 26)
retrieved 4 May 2024 from <https://medicalxpress.com/news/2022-01-car-carcinogen.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.