

# Why Study Household Dust?

**Contaminants in homes can affect health.** These may include:

## Lead

Homes built before 1978 may have lead in paint. Other sources of lead include dust, soil, water pipes, and some household items.



## Allergens

Pests like mice and cockroaches contain substances in their bodies or droppings that many people are allergic to.



## Chemicals in household products, furniture, or building materials

**Flame retardants:** chemicals added to products like upholstered furniture, insulation, and electronics to make it harder for them to catch fire.



**Pesticides:** chemicals used in sprays, cleaners, baits, mothballs, etc. to kill bugs, mold, weeds, bacteria, fungus, and other microbes.



**Fragrance chemicals:** used in products like air fresheners, candles, cleaning and personal care products to create artificial smells or mask unwanted odors.



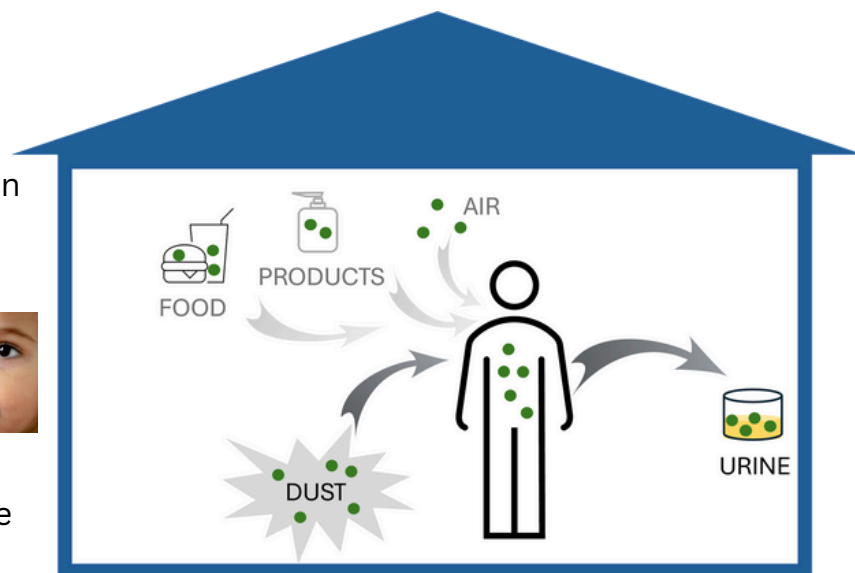
**Phthalates:** chemicals used in plastic/vinyl products (flooring, shower curtains, toys, food packaging), cosmetics, personal care and cleaning products.



## Contaminants get into dust and into us.

These contaminants can make their way into the air and into household dust. They can get into our bodies through the air we breathe, food we eat, or products we use on our skin. People may be exposed at home, work, school, or other places we visit.

These contaminants may affect health, especially children's health. Research shows reason for concern, but the government has not yet set a standard or limit for most of these contaminants (except lead).



**What we did:** Between May 2021 and May 2024, the ROC HOME study measured environmental contaminants in dust in 84 homes and urine from 53 homeowners enrolled in the City of Rochester's Lead Hazard Control grant program. Learn more at [rochome.urmc.edu](https://rochome.urmc.edu).

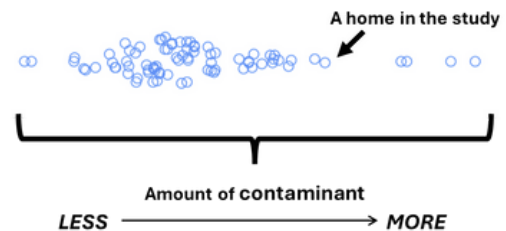


City of Rochester  
National Center for Healthy Housing

Study funded by HUD Healthy Homes Technical Study Project #MAHHU0060-20 and NIH NIEHS R21 Award #1R21ES033750-01. Additional support from NIEHS P30 ES01247. Last updated 9/3/25.

## We found contaminants in every home and urine sample we tested.

This does not mean that every home is unsafe or that there are immediate health hazards. We found higher levels of contaminants in some homes and urine samples than others. People with higher levels can probably make changes to reduce their exposure.



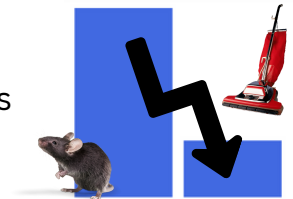
## Lead is lower, but lead remains. Cleaning, maintenance and education are important.

- ☞ Lead was much lower after Lead Hazard Control work, but 45% of homes had lead dust levels above US standards 4 months after the repair work.
- ☞ At the end of the study, 25% of participants incorrectly thought that there is no lead in a home after Lead Hazard Control work.
- ☞ Intact lead paint is safe if it is not disturbed and is not always removed during Lead Hazard Control work. Lead dust may be created over time if paint deteriorates. Lead can also come in from outside on shoes or through open windows. Lead-safe cleaning, ongoing maintenance, and continued education are important even after Lead Hazard Control.



## Almost all homes had evidence of mice, but cleaning matters.

- ☞ 98% of homes had mouse allergens in dust. Many people are allergic to mice allergens. The allergens can also trigger asthma.
- ☞ People who vacuumed at least once per week tended to have lower allergens than people who vacuumed less often.
- ☞ Before the study, 36% of participants did not have a vacuum. ROC HOME provided participants with a HEPA-filtered vacuum, and 76% of participants used it weekly.

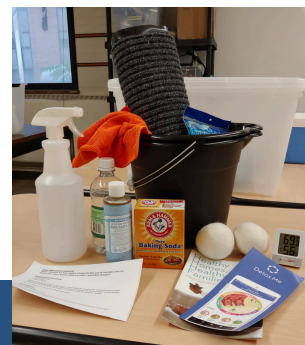


## Chemicals can stick around for a long time and may be present even if no longer used.

- ☞ We found pesticides that have been banned for decades. (Levels are decreasing over time.)
- ☞ We found older phthalates that are no longer used and the newer chemicals replacing them.

## When provided with education and alternatives, people made changes to reduce their exposure.

- ☞ Study participants received a “Healthy Home Kit” with safer swaps for household chores.
- ☞ Participants made changes like making homemade cleaners, using unscented detergents, swapping dryer sheets for wool dryer balls, and using fewer air fresheners.



## What can you do?

- Bring fewer contaminants into homes.
- Clean regularly and with safer products.
- Use ventilation and filters to clear the air.
- Talk to others about home health.
- Promote access to vacuum cleaners and safer cleaning supplies.
- Support efforts to reduce harmful chemicals in homes and products.