

Masks on for Spring Cleaning: New Study Reveals Household Dust may be an Additional PFAS Exposure Source

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A new study from the North Carolina State University's GenX Exposure Study has detected airborne “forever chemicals” in everyday household dust in communities along the Cape Fear River Basin, North Carolina area. These communities, located in Cumberland and Bladen counties, are in close proximity to the Fayetteville Workers fluorochemical plant, a well-known source of contamination of the Cape Fear River watershed by GenX and other PFAS (per and poly-fluoroalkyl substances) chemicals. GenX is a PFAS chemical compound used primarily in manufacturing nonstick coatings and produced as a byproduct of certain manufacturing processes.

While PFAS exposure via contaminated water emissions from the Fayetteville Workers fluorochemical plant have been well studied, researchers decided to broaden the study to determine whether the common household dust could also be a potential source of PFAS exposure in the Fayetteville community via air emissions from the Fayetteville Workers fluorochemical plant.

Accordingly, in February of 2019, researchers collected dust samples from 65 homes within six miles of the Fayetteville Workers fluorochemical plant. The study targeted 48 different PFAS, including 12 PFEAs (per- and polyfluoroalkyl ether acids) associated with the Fayetteville Workers fluorochemical plant that were detected in the area's drinking water wells. According to the study's findings, every dust sample had at least one PFAS compound detected. Specifically, GenX was detected in 89% of the samples, while at least six PFEAs were detected in over 75% of the samples. Interestingly, 89% of the dust samples collected detected high levels of other PFAS compounds not generally linked to the fluorochemical plant—including trifluoroacetic acid—an ultra-short chain of PFAS that originate from the breakdown of refrigerants.

Overall, the GenX Exposure Study's new findings reveal that household dust, particularly dust in homes located in PFAS impacted communities, may be an additional source of PFAS exposure. Of importance, researchers highlighted that small children tend to be more susceptible to dust exposure.