Thirdhand Smoke Resource Center

What is thirdhand smoke?

The Short Answer

Thirdhand smoke is the chemical residue from tobacco smoke. It is also called “tobacco smoke residue” or “stale tobacco smoke.” The chemicals in thirdhand smoke are toxic to humans, especially children. It can linger for years in dust and on household surfaces. It can also become embedded in carpets, furniture, clothes, and building materials. It is difficult and expensive to remove.

The Long Answer

Thirdhand smoke is the chemical residue left behind after secondhand tobacco smoke disappears from the air. Secondhand smoke is a combination of sidestream smoke from a cigarette and mainstream smoke exhaled by smokers. Thirdhand smoke is a mixture of toxic chemicals that sticks to surfaces, embeds in materials, and gathers in house dust. It embeds in carpets, walls, furniture, blankets, and toys. The toxic particles can re-emit from these contaminated surfaces into the air. Thirdhand smoke can linger indoors for years. People can be exposed to it by absorbing it through their skin, by consuming contaminated objects or dust, and by breathing polluted air.

The U.S. Surgeon General has concluded that there is no safe level of exposure to tobacco smoke. The California Air Resources Board has classified secondhand smoke as a toxic air contaminant. Many chemicals in secondhand smoke are also in thirdhand smoke, such as cancer-causing compounds, toxicants that harm reproductive organs, and toxicants that interfere with development (as defined by California’s Proposition 65 and the International Agency for Cancer Research). Thirdhand smoke also contains additional toxic chemicals that are not found in secondhand smoke because they form when tobacco smoke chemically changes in the environment.

Do you have more questions about the toxic legacy of tobacco smoke, how it affects human health, and what we can do about it? Learn more here.

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Sources:

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