

Is your vinyl siding killing you?

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PVC siding may pose health hazards to humans, especially when it burns. [See more home health hazard images.](#)

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In July 2006, reports about health problems began to trickle in from Hurricane Katrina evacuees who spent the previous year living in trailers provided by the [Federal Emergency Management Agency](#) (FEMA). Instances of asthma and other respiratory ailments were traced back to a chemical called formaldehyde, which is also a known carcinogen. This chemical is used most famously as a preservative in the embalming process before funerals, but it can also be found in a vast array of modern products. As it turns out, one of these is the particle-board flooring and cabinets of many FEMA trailers. When the trailer heats up, the formaldehyde is released into the air inside the trailers, which could make the presence of PVC a factor in the myriad health problems that are becoming increasingly common among Katrina evacuees [source: [Brunker](#)].

But those living in FEMA trailers are not the only people at risk due to common household chemicals. Polyvinyl chloride, or **PVC**, is used in countless products, from toys to carpet to fake [Christmas trees](#). It is also used commonly in construction materials, like vinyl siding. So if the chemicals in PVC may be dangerous, does that mean your vinyl siding is killing you?

[Home Health Hazard Image Gallery](#)

PVC contains chlorine, a hazardous chemical. But it also employs other chemicals to create the type of

final product needed by manufacturers. For example, plasticizers -- like **phthalates** -- may be added to PVC to create a flexible plastic. PVC products that are meant to be rigid, like vinyl siding, may have **lead** added to them as a stabilizer.

Because not all of the stabilizer added to PVC actually bonds with the other molecules, some researchers think that lead can reach the exterior of the surface of the PVC. And lead has been shown to cause brain damage, learning disabilities, high blood pressure and even miscarriages.

Your vinyl siding is generally safe, as long as you don't spend time licking it or touching it. You can get lead in your body if you drink liquid that contains lead, such as water that has passed through lead pipes. It can also enter through your skin, and, in some cases, you could breathe lead into your lungs. PVC siding generally is vented from behind, keeping air from becoming trapped behind it, and keeping most of the lead outside your home.

So far, the most studied danger of vinyl siding comes when it is burned, as in a house [fire](#). As PVC burns, the chlorine in the material escapes, creating an **acid smoke** that contains hydrogen chloride. When hydrogen chloride enters the lungs, it becomes hydrochloric acid, an extremely caustic acid that can result in internal [chemical burns](#) in a person who inhales it. This acid smoke is so potent that it can kill a person inside a house fire before the flames or carbon monoxide does [source: [Montreal Home Inspection](#)].

But vinyl siding isn't the only use for PVC, and all of those toys, fake Christmas trees and carpet that are made of PVC in your home also pose health threats. Find out on the next page why PVC may be phased out of production in the next few years.

PVC: Poison Plastic?



PVC has come under protests from a number of organizations in a number of countries, like India (above).

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Polyvinyl chloride seems like it's everywhere. In one way, it's a miracle compound. It provides tools healthcare professionals need to work cheaply and effectively. It's created safer cars through softer dashboards that can cushion an impact during a wreck. And PVC has made modern life more affordable, with its use in inexpensive consumer goods. Thanks to PVC, life has become more convenient. But some

groups say that this convenience comes with a price.

The Center for Health, Environment and Justice, a non-profit organization based in New York, calls polyvinyl chloride “one of the most hazardous consumer products ever created” [source: [CHEJ](#)]. This group has launched a publicity campaign against the production of polyvinyl chloride, called “PVC: Poison Plastic,” and produced a 2004 study, “Bad News Comes in Threes.” The “Threes” references the number three found within the recycling symbol on some products, which identifies those products as being made of PVC.

But just what exactly is so bad that it could be thought of as such a hazard? Sure, burning vinyl is a problem, but how likely is your house to go up in flames? Actually, burning vinyl siding isn't the only hazard associated with PVC. And it's not just [fire](#) that makes it hazardous. According to the CHEJ, the entire lifespan of the PVC material is harmful.

The production of PVC requires a series of chemical reactions. Each step releases waste byproducts, which may enter the atmosphere, groundwater and soil. Manufacturing chlorine produces other chemicals, like [dioxins](#), which have been shown to cause [cancer](#). Some of these waste byproducts are also sent to landfills by companies that produce PVC and its building blocks.

The jury's still out as far as what kind of effects PVC products have on consumers. Testing on lab animals has shown negative effects, such as hindering healthy development of the [reproductive system](#). But testing on humans has not been conclusively researched. Still, a report by the U.S. Food and Drug Administration says that even though reports of similar harmful effects on humans by phthalamites -- those softening ingredients -- “there have been no studies to rule them out” [source: [FDA](#)]. The PVC industry declares its products safe, but products containing phthalamites were banned in toys for children under age three by the European Union in 1999.

Perhaps the biggest problem associated with PVC products is found at the end of their life span. PVC products can't be incinerated (or at least they shouldn't be), and their introduction into landfills poses a threat, as well. As PVC products break down, the lead, mercury, phthalamites and chlorine involved in their creation can leak into groundwater, eventually making it into a water supply.

Even [recycling](#) PVC products is problematic. Reconstituting PVC products into new ones is considered difficult and uneconomical. PVC is created from chlorine through chemical processes, but it isn't recycled easily. “There are clearly very finite limits to what [PVC products] can be recycled,” states a report cited by the activist organization [Greenpeace](#).

The PVC industry is facing great challenges. Companies are beginning to discontinue the use of PVC packaging, and others are stopping use of PVC altogether. It appears that the plastic may be reaching the end of its own life cycle. The trouble is, that's not going to do much about the PVC that has already been created.

Learn more about plastics, recycling and other related topics on the next page.

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