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# Flame Retardants Put Firefighters at Risk

## *A new study reveals alarming levels of toxic chemicals in firefighters' blood.*

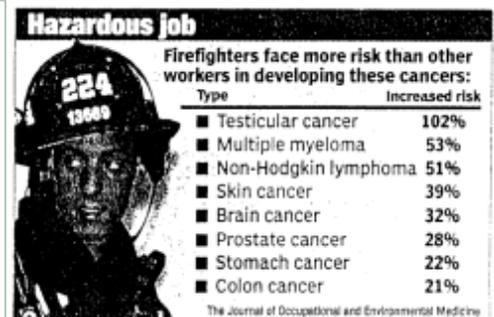
By Paula Melton

If there's one group you'd expect to be in favor of flame-retardant chemicals, it's firefighters.

Not so, according to reporter Mario Moretto at the [Bangor Daily News](#). Although danger is part of the job, firefighters didn't sign up for the long-term risks associated with toxic chemicals they breathe in when building materials and common household plastics burn. This has compelled some firefighters' unions to lobby for tighter regulations on the harmful chemicals—and new research gives us an inkling of just how much danger they're in.

Marine toxicologist Susan Shaw, DrPH, found that firefighters had alarmingly high levels of PBDE flame retardants (polybrominated diphenyl ethers) in their blood immediately after fighting fires—three times higher than that of average Americans, who already have the highest PBDE levels in the world. Although the most toxic forms of [these chemicals were phased out of production in 2004](#), they—along with newer, chemically similar flame retardants—remain in household items and dust. They are also [persistent, bioaccumulative toxic substances](#) that can actually become more harmful the longer they persist.

PBDEs are endocrine disruptors and neurological toxicants that may have links to thyroid cancer. Shaw said the firefighters also had elevated levels of dioxin and furans—both potent carcinogens that occur when PVC and other common plastics burn. Although firefighters are known to have higher cancer risk than the general population—including [double the risk of testicular cancer](#)—no studies have linked their increased risk to specific chemicals. A [massive, multi-year epidemiological study](#) launched in 2010 by the National Institute for Occupational Safety and Health may eventually help answer lingering questions.



We've known about firefighters' elevated cancer risk for a long time, but toxicologists are just beginning to connect the dots between this and chemical exposure.

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IMAGE CREDITS:

1. Source: Journal of Occupational and Environmental Medicine

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