

FLAME-RETARDANT BUTTER? CHEMICAL CONTAMINATION OF FOOD GETS OVERLOOKED¹

Emily Main[©]

Although the food-safety bill that just passed the Senate included important protections for organic food and farming systems, it didn't do much to protect us from what could be the next emerging food-safety threat: chemical contamination of our food supply. Intense lobbying on behalf of the Grocery Manufacturers Association defeated an amendment that would have banned the use of hormone-disrupting bisphenol-A (BPA) in the linings of canned goods and other forms of food packaging, and it turns out that BPA isn't the only chemical contaminating our food, according to new research.

"What we're finding is that, in both people's blood and urine, there are many if not hundreds of the chemicals we're finding when we're looking at food," says Arnold Schecter, MD, MPH, a professor of environmental and occupational health sciences at the University of Texas School of Public Health, who just published a study finding disturbingly high levels in butter of flame retardants that are used in electronic equipment. This recent study, published today in the journal *Environmental Health Perspectives*, is part of a three-year-long research project that Dr. Schecter has undertaken to discover what other chemicals lurk in our food supply. He's uncovered BPA in everything from frozen vegetables to deli meats, as well as pesticides, cancer-causing dioxins (the chemical behind the birth defects and other health problems caused by Agent Orange), flame retardants, and the chemicals used to make nonstick pots and pans. "Yet, when you look at the recent food-safety bill, we're still thinking infectious disease," he says.

THE DETAILS: Dr. Schecter's most recent study was intended to detect polybrominated diphenyl ethers (PBDEs), a class of very nonbiodegradable flame retardants that have been used in electronics, furniture, and automobiles. Many have already been banned because of links to thyroid problems, learning disorders, and female infertility. Based on previous research from other countries, his team knew that butter was a good medium for detecting PBDEs, because the chemicals build up in the body fat of animals. They purchased 10 random butter samples from five grocery stores in Dallas and then analyzed those samples in a lab. All the butter samples were sold in sticks wrapped in paper (versus tubs of butter).

All 10 samples had some level of PBDE contamination, but the levels varied from sample to sample. One sample, though, had 280 times higher levels of PBDEs than the sample with the lowest levels; the researchers noted that it was the worst documented case of PBDE contamination of food they'd ever seen. That sample also happened to be the only butter sample for which they still had the wrapper. When it was analyzed, the researchers found that the wrapper had twice as much PBDE contamination as the butter itself.

Some of the butter samples had levels of PBDE formulations that, now banned, were once used in automobiles and in furniture, suggesting that those formulations are persistent in the environment, lingering in the food and water that animals eat. But the high levels of PBDEs found in the tenth sample and its corresponding wrapper were those used in electronics, leading the authors to conclude that the food packaging was likely a primary source of contamination. It's likely the packaging was contaminated by electronics before it reached the butter processing

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plant, Dr. Schecter says. He isn't sure how, but one possibility could be that the chemicals came from the printer that gives butter wrappers those handy tablespoon markings and the company's branding logos.

WHAT IT MEANS: Unless you're worried that flammable butter may be the next source of a house fire, these results should be concerning. "This certainly points out that you can get toxic chemicals in your food—and every so often get really high levels—and no government agency is systematically checking or even periodically checking to see if they're there," Dr. Schecter says. "We're also talking about reducing the size of government, which worries me because food isn't being inspected enough as it is."

It isn't so much that butter has high levels of synthetic flame retardants or that canned food has too much BPA that concerns Dr. Schecter. "If there were only one chemical, I wouldn't be that worried, but if you're talking about perhaps dozens of chemicals in food products, then I become concerned," he says. Previous studies have shown butter to be contaminated with everything from PBDEs to DDT, and when those chemicals combine, their collective health effects can have an even greater impact than if they existed alone. Take brain damage, says Dr. Schecter. PBDEs have been linked to learning disorders in young children. If PBDEs were to get into fish, they might mix with mercury, which also causes brain damage, or BPA, which causes learning and behavioral disorders—or both. "If all these chemicals cause the same kind of problem, then you start to get concerned," he says.

It's hard to avoid the chemical cocktails that seem to keep cropping up in our food supply. Most of the progress needs to be addressed at the regulatory level, Dr. Schecter says, and government agencies should start testing food to, at the very least, figure out what the sources of contamination are.

But there are a few steps you can take:

- **Opt for minimally packaged food.**

Whether it's BPA in cans or flame retardants in butter wrappers, one obvious source of chemical contamination is food packaging. Look for products packaged in glass (which is totally inert), and buy fresh produce, which you can take home in reusable cloth produce bags.

- **Call your Member of Parliament.**