

Consumer Choice Fire Protection Act

Support SB 147 (Leno): Keep Fire Safety, Allow Healthier Products

In Brief: California's Furniture Flammability Standard Technical Bulletin 117 (TB 117), has led to high levels of toxic or untested chemical flame retardants in furniture and baby products since 1975. SB 147 would instruct the Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation (BEARHFTI) to develop an alternative flammability standard that is fire safe and can be met without the use of flame retardants.

FIRE SAFETY TB 117 has no proven fire safety benefit. There is no impartial data to show that adding flame retardants to California furniture and baby products has decreased fires or fire deaths. Fires are in fact more dangerous in the presence of these chemicals. The flame retardants burn after a few seconds and increase the carbon monoxide, smoke, and soot, which are the major cause of fire deaths.

HEALTH Scientific and peer-reviewed data show that exposure to flame retardants is associated with decreased IQ, cancer, cryptorchidism (undescended testicles), endocrine and thyroid disruption, reduced fertility, and other adverse human health conditions.

CHOICE SB 147 would allow consumers the choice of purchasing furniture and baby products that are fire safe and do not contain toxic chemicals. Current regulations do not allow consumers this basic choice.

FIRE SAFETY

Current TB 117 Standard Has Not Protected Californians From Fires

A 60% decrease in fire deaths in both California and the United States as a whole since 1980 parallels the decrease in per capita cigarette consumption, increased enforcement of improved building, fire, and electrical codes; and the increased use of smoke detectors and sprinklers.

Fires Are More Dangerous With Flame Retardants

While flame retardants may reduce the time for a material to ignite by a few seconds, they increase the carbon monoxide, toxic gases, smoke and soot produced once the fire begins, threatening both fire victims and firefighters.

Most fire deaths and most fire injuries result from inhalation of these gases and soot. When the flame retardants themselves eventually burn, they can produce highly toxic, bioaccumulative, and persistent dioxins and furans.

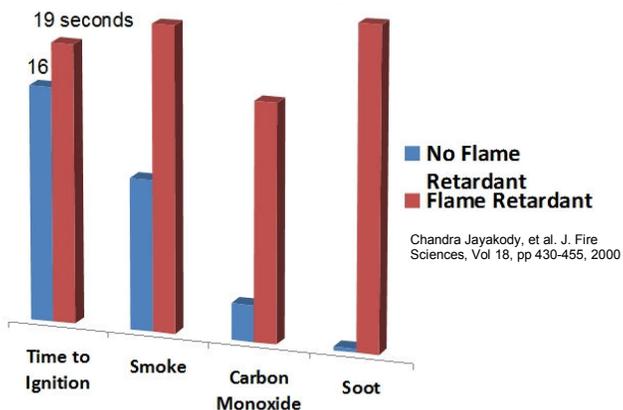
We Need Real Solutions in Fire Safety

Effective fire safety strategies include

- ➔ decreased smoking
- ➔ fire-safe cigarettes
- ➔ increased use of sprinklers and smoke detectors
- ➔ building code enforcement

(National Fire Protection Association)

Comparing Fire Ignition Time, Toxic Gases, Smoke, and Soot

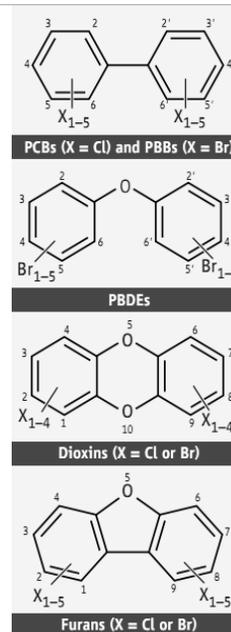


Related structures.

PBDEs, used as fire retardants in furniture, are structurally similar to the known human toxicants PBBs, PCBs, dioxins, and furans.

In addition to having similar mechanisms of toxicity in animal studies, they also bioaccumulate and persist in both humans and animals.

Adapted from Blum, Science Magazine, 2007



HEALTH

Children, Californians at Greatest Risk

Flame retardants pose a serious hazard to pregnant women and young children who are the most vulnerable to endocrine disruptors, carcinogens, mutagens, and neurological and reproductive toxins.

Flame retardants escape from products into dust and are ingested by humans and animals. Levels of these chemicals have increased 40-fold in human breast milk since the 1970s¹.

Peer-Reviewed Animal and Human Studies

find associations between flame retardants and:

- ➔ decreased IQ in children²
- ➔ learning disabilities such as attention deficit disorder and hyperactivity³
- ➔ cancer^{4,5}
- ➔ cryptorchidism (undescended testicles)⁶
- ➔ decreased sperm quality⁷
- ➔ increased time to pregnancy⁸
- ➔ endocrine and thyroid disruption^{9,10} and other health conditions.

Firefighters and Increased Cancer

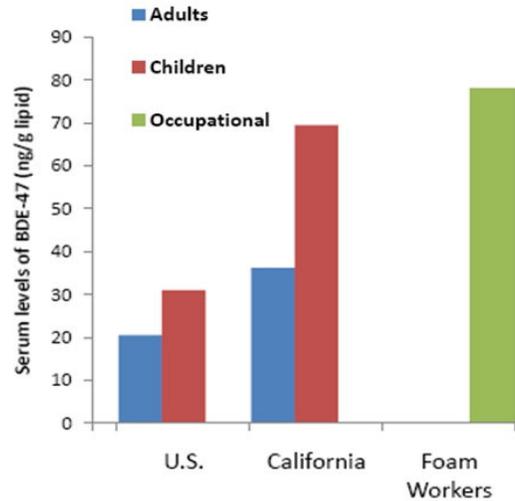
Firefighters have significantly elevated rates of four types of cancer: multiple myeloma, non-Hodgkin's lymphoma, prostate, and testicular cancer.¹¹ These elevated cancer rates may result from exposure to dioxins and furans, which are formed when flame retardants burn.

CHOICE

Consumer Choice Fire Protection Act will:

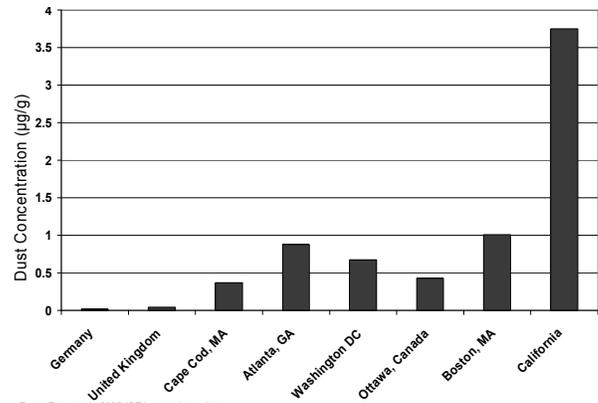
- ➔ Reduce exposure to toxics without compromising fire safety;
- ➔ Alert consumers to the presence of fire retardants in baby products and furniture;
- ➔ Reduce workplace exposure to toxic chemicals for firefighters and industry workers;
- ➔ Provide industry with incentives to create affordable and less toxic products

Flame retardant levels in California children aged 2-5 years are similar to levels in occupationally exposed adults in the foam industry



Adapted from Rose et al., Environmental Science & Technology, 2010

Flame Retardant Concentration in Household Dust (BDE-99)



From: Zota et al., 2007 ISEA annual meeting. Silent Spring Institute

For more information contact Sara Rogers, Office of Senator Mark Leno, sara.rogers@sen.ca.gov (916) 651-4003 or Ana Mascareñas, Physicians for Social Responsibility-Los Angeles, amascarenas@psr-la.org (323) 743-3241

¹ Lunder S and Sharp R. (2003). Mothers' Milk: Record levels of toxic fire retardants found in American mothers' breast milk. *Environmental Working Group*. www.ewg.org/reports/mothersmilk/
² Herbstman JB, Sjodin A, Kurzon M, Lederman SA, Jones RS, Rauh V, Needham LL, Tang D, Niedzwiecki M, Wang RY, Perera F (2010) Prenatal exposure to PBDEs and neurodevelopment. *Environ Health Persp* 118:712-719
³ Grandjean P and Landrigan PJ. (2006). Developmental Neurotoxicity of Industrial Chemicals. *The Lancet*. 368; Schantz S et al. (2003). Effects of PCB Exposure on Neuropsychological Function in Children. *Environmental Health Perspectives*. 111(3): 357-576.
⁴ US EPA (2005) US Environmental Protection Agency. *Furniture flame retardancy partnership Environmental profiles of chemical flame-retardant alternatives for low-density polyurethane foam*. <http://www.epa.gov/dfe/pubs/index.htm>
⁵ Babich MA, Thomas TA, Hatlelid KM (2006) CPSC staff preliminary risk assessment of flame retardant (FR) chemicals in upholstered furniture foam. Consumer Product Safety Commission. <https://www.cpsc.gov/library/foia/foia06/brief/uhff1.pdf>
⁶ Main, KM, Kiviranta, H, Virtanen, HE, Sundqvist, E, et al. 2007. "Flame retardants in placenta and breast milk and cryptorchidism in newborn boys." *Environmental health perspectives*, vol. 115, no. 10, pp. 1519-26.
⁷ Akutsu, K, Takatori, S, Nozawa, S, Yoshiike, M, et al. 2008. "Polybrominated diphenyl ethers in human serum and sperm quality." *Bulletin of environmental contamination and toxicology*, vol. 80, no. 4, pp. 345-50.
⁸ Harley, KG, Marks, AR, Chevrier, J, Bradman, A, et al. 2010. "PBDE concentrations in women's serum and fecundability." *Environmental health perspectives*, vol. 118, no. 5, pp. 699-704.
⁹ Schreiber T, Gassmann K, Götz C, Hübenenthal U, Moors M, Krause G, Merk HF, Crofton KM, Nguyen N-H, Scanlan TS, Abel J, Rose CR, Fritsche E (2010) Polybrominated diphenyl ethers induce developmental neurotoxicity in a human in vitro model: Evidence for endocrine disruption. *Environ Health Persp* 118:572-578
¹⁰ Dallaire R, Dewailly E, Pereg D, Dery S, Ayotte P (2009) Thyroid function and plasma concentrations of polyhalogenated compounds in Inuit adults. *Environ Health Persp* 117:1380-1386
¹¹ LeMasters GK et al. (2006). Cancer risk among firefighters: a review and meta-analysis of 32 studies. *Journal of Occupational & Environmental Medicine*. 48(11): 1189-202