

Good morning.

My name is Dr. Sarah Janssen and I am speaking here on behalf of the Natural Resources Defense Council. I am a physician and have an appointment at UCSF in the Department of Occupational and Environmental Medicine. I also have a Master's degree in Public Health and a PhD in reproductive biology with expertise in chemicals that mimic hormones. Many flame retardant chemicals are hormone like chemicals.

Flame retardants have become a common component of household items and unfortunately have been incorporated into our bodies. Flame retardants are found in house dust because they leach from the products they are used in. As a result of inhaling or ingesting this dust, Americans, in particular, Californians are amongst the most highly exposed people carrying some of the highest levels found. Pregnant and nursing mothers pass unknowingly and unwillingly pass these chemicals to the developing fetus and infant resulting in exposures during critical periods of development. Because infants and toddlers spend most of their time close to the ground where dust settles and because it is normal for young children to put their hands into their mouths at any opportunity, it isn't surprising that toddlers have been found to have some of the highest levels of exposure, some three times the levels that are found in their mothers.

Infants and children are uniquely vulnerable to chemical exposures because of the tremendous amount of growth they undergo (for example a newborn doubles their weight during the first five to six months and by their first birthday will weigh three times their birthweight), Children are also vulnerable because on a pound for pound basis they ingest more food and liquids than an adult, and because their detoxification systems are not yet mature. These factors all combine to result in relatively higher exposures to toxic chemicals in young children during critical periods of organ development.

As a physician and scientist and most importantly, mother of a young toddler, I am quite concerned that levels of certain flame retardants found in humans are dangerously close to the levels of harm found in laboratory animals.

Health outcomes that have been associated with harm in laboratory animals include damage to the developing brain resulting in hyperactivity and memory problems, reproductive harm such as lower sperm count and small testes, and cancer. These impacts have been published in peer-reviewed journals by esteemed scientists such as Dr. Linda Birnbaum, current head of NIEHS. Troubling to me is that many of the outcomes once described in animals are now being found in studies of human populations including disruptions in male sex hormone and thyroid hormone levels, alterations in the development of male genitals and poor sperm quality.

Although some toxic flame retardants such as the Penta- and Octa- BDEs have been phased out of use, the unique California flammability standard for foam in

furniture and baby products continues to mandate the use of other types of flame retardants. There is no requirement that the toxicity of these replacements is tested and as one example where one toxic flame retardant has been replaced by another I'd like to describe the use of chlorinated Tris. Chlorinated Tris was banned as a flame retardant from children's pajamas in the 1970s because it caused an unacceptably high number of cancerous tumors. However, it was not banned from use in other products and is now being used as a replacement for PBDEs in furniture, including infant strollers. Heather Stapleton, a respected researcher and expert in measuring flame retardants has estimated that an infant stroller she recently bought contained 2-3% by weight, chlorinated Tris. Why is this exposure any more acceptable than exposure from pajamas?

Strollers, bassinets, nursing pillows and other juvenile products named in this bill are not fire hazards.. This bill is not about banning an individual chemical but about protecting children from the excessive use of chemicals in these products. Continued exposure is putting future generations at risk for chronic disease and irreparable harm.

I urge your support of this important bill and will be happy to answer any additional questions you may have.