

Donald Lucas

The Draft Regulatory Determinations Report to the Legislature: Safer Products for Washington Implementation Phase 3 (Nov., 2021) is an important and impressive document produced by the Washington Department of Ecology. It is a thorough and professional examination of how to reduce the use of toxic or potentially toxic chemicals in consumer products. As a research scientist, I would like to add my support to their recommendations on the use of certain flame retardant chemicals, especially on their proposed restrictions on halogenated and some organophosphate flame retardants for electronics.

I was a combustion scientist at the Lawrence Berkeley National Laboratory (LBNL) and the University of California, Berkeley. I was also the Deputy Director of the Environment, Health, and Safety Division at LBNL. I studied the combustion, detection, and health effects of halogenated hydrocarbons and other combustion species for over 35 years. I was a co-author of the San Antonio Statement on Brominated and Chlorinated Flame Retardants that was mentioned in this report. I continue to serve on numerous national, state, and academic committees on flame retardant issues.

The Department presents substantial and compelling evidence that organohalogen and organophosphate harm human health and the environment. Many of these types of chemical flame retardants have been banned or have stopped being produced, but as persistent chemicals they will remain in our environment for a very long period of time. There are no simple and effective means to destroy these chemicals in discarded items, which means that generations to come will continue to be exposed to these toxic chemicals. The entire lifecycle of products containing flame retardants are thus a concern, from manufacturing, use, recycling, and disposal.

The Department has listed chemical alternatives that are safer, which shows that the chemicals of concern here can be replaced while maintaining fire safety. They also examine situations where flame retardants do not add fire safety, such as the work done at WPI that demonstrated that pits containing foam blocks, with or without flame retardants, can produce severe fires when exposed to small, open flame ignition sources.

Electronics and foam products are a significant source of exposure for organohalogen and organophosphate flame retardants. Flame retardants do not prevent these products from burning, and when they burn a toxic soup of chemicals is produced. Firefighters, in particular, are heavily exposed to harmful combustion byproducts, which is why the International Association of Fire Fighters (IAFF) remains committed to sound public policy that removes toxic chemicals from the hazardous environments that their members encounter on a daily basis.

(<https://www.iaff.org/news/california-repeals-commercial-furniture-open-flame-fire-test>)

I applaud the Department for their work in identifying alternative methods for providing fire safety without using certain classes of chemicals (organohalogen and organophosphates) as new products and chemicals are introduced in consumer products such as electronic devices and foam-containing items. I encourage them to continue this, and they also should also continue to examine non-chemical methods for increasing fire safety, such as new generation smoke detectors with a 10 year battery life, sprinkler systems, and the reduction of smoking and other ignition sources.

In summary, I support the effort to reduce the use of harmful flame retardants as proposed by the Department. They used sound scientific reasoning to reach their proposed regulations. This is a serious issue that not only affects people who have high exposure levels to these chemicals, but to virtually everyone in Washington State and the U.S. These draft regulations should serve as a blueprint for the rest of our country.