



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

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Written Testimony of Commissioner David P. Littell
Maine Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017

Connecticut Legislature Environment Committee

SB. No. 919 AN ACT PHASING OUT THE USE OF POLYBROMINATED DIPHENYL ETHERS

Senator Ed Meyer, Representative Richard Roy and members of the Connecticut Legislature's Environment Committee, I am David P. Littell, Commissioner of the Maine Department of Environmental Protection, submitting this written testimony neither for nor against SB. No.919-AN ACT PHASING OUT THE USE OF POLYBROMINATED DIPHENYL ETHERS at the request of Representative Urban.

Maine legislative and executive branches have, over several decades, been active in enacting consumer product bans needed to protect public health and the environment from toxic chemicals. Use of such laws significantly increased with bans on mercury in products, beginning with items such as thermometers and evolving to broader product bans on mercury containing switches, relays and measuring devices. The series of these consumer products laws continued into our most recent Legislative session, with enactment in the spring of 2008 *An Act to Protect Children's Health and the Environment from Toxic Chemicals in Toys and Children's Products* 38 MRS §§1691-1699-B¹ with unanimous support from the Maine Senate and overwhelming support from the Maine House of Representatives.

Directly relevant to the legislation pending before you in SB. No. 919, in 2004 Maine enacted a ban on the penta (pentabromodiphenyl ether) and octa (octabromodiphenyl ether) brominated flame retardants,

¹ <http://www.mainelegislature.org/legis/Statutes/38/title38sec1691.html>

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and in 2007 *An Act to Protect Pregnant Women and Children from Toxic Chemicals Released into the Home* banned deca (decabromodiphenyl ether) in television and computer housings, mattresses, mattress pads, and upholstered furniture. That 2007 law also provided authority to the Commissioner of Environmental Protection to ban any flame retardant found to threaten Maine people or their environment. Interestingly, the 2007 law was enacted with unanimous support from the Maine House of Representatives and overwhelming support from the Maine Senate. All of this is evidence of how Maine has become increasingly concerned about, and decisively acted to limit, the toxic chemicals in consumer product in our homes that are scientifically established to negatively affect human health and can impact our most sensitive populations.

On January 20, 2009 the Washington State legislative report on safer alternatives to deca was submitted and accepted. This triggered that State's ban on televisions, computers and residential upholstered furniture containing deca-BDE by January 2011. We agree with their conclusion that: "PBDEs are rising in people and the environment, doubling every five years. People in North America have the highest levels in the world. Studies in laboratory animals – the standard testing method for toxicity – show that PBDEs can damage the developing brain, affecting behavior, learning and memory. These effects can be permanent and may worsen with age."²

It is important to note that government leadership on brominated flame retardants is not limited to State actions. Federal agencies (GSA, DoD, NASA) are now required to purchase personal computer products such as desktops, notebooks/laptops and monitors that do not contain deca. This is announced in a January 15, 2009 Federal Register Notice as final rule for a federal requirement for purchasing Electronic Product Environmental Assessment (EPEAT)³ compliant personal computers. A baseline requirement for EPEAT is compliance with the European Union Restriction of Hazardous Substances (RoHS) requirement that bans multiple toxic chemicals, including deca in covered electronics.

Clearly public policy concerns about brominated flame retardants in products are growing as evidenced by increasing national and international regulatory and voluntary efforts to ban or reduce its use.

² Washington Dept of Ecology News Release 1.21.09

³ <http://www.epeat.net/Docs/EPEATFAR.pdf>

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The time and resources invested by the Maine Department of Environmental Protection and Maine Center for Disease Control to report to Maine's Legislature and inform this debate have been considerable, and were assisted by information from other states including Washington and Illinois. We welcome the opportunity to honor Representative Urban's request, and to contribute to interstate information sharing.

Maine's history of consumer products bans has also contributed to rising support for comprehensive chemicals policy reform. An increasing number of states are debating (and enacting) legislation on toxic chemicals in consumer products, ranging from single chemical bans such as deca to comprehensive chemicals policy reform. The federal government and the states share responsibility for effective chemicals policies that protects public health and the environment and promotes green product development. But until we have effective national comprehensive chemicals policy states will bear a disproportionate burden in that regard. We hope you are aware that a robust national discussion on comprehensive chemical regulatory reform is underway, particularly in the context of potential amendments to the federal Toxic Substances Control Act. Our state actions and information sharing are playing an important role in encouraging that discussion and providing models to inform that discussion.

Like Connecticut, Maine executive agency staff have both been authorized by our respective legislatures to participate in an interstate chemicals clearinghouse. We look forward to continued efforts to work together to improve the chemical safety of consumer products for the protection of public health and the environment.

I again want to thank Representative Urban for inviting Maine to contribute to the Connecticut Legislature's Environment Committee debate on phasing out the use of polybrominated diphenyl ethers. The following paragraphs are taken from testimony I provided to Maine's Legislature in 2007 at the public hearing it held on banning deca.

Highlights from 2007 Maine Department of Environmental Protection testimony to the Maine legislature in support of LD 1488 An Act to Reduce Contamination in the Home from the Release of Brominated Flame Retardants

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Deca's effectiveness as a flame retardant is not in question. It has found wide use in TVs because of its relatively low cost and compatibility with the plastic HIPS (high impact polystyrene). HIPS is favored for making TV cabinets because of the ease with which it can be reshaped through injection molding. Deca also finds application in a wide variety of other products, including office furniture, coated wire and plastic electrical parts.

Unfortunately, deca has other characteristics that have raised a resounding call for its removal from the marketplace notwithstanding its efficacy as a flame retardant. The main property leading to problems is that it does not stay put. Deca is not chemically bound to the materials it is added to and readily leaves these materials where it can mix with home dust, soil and be readily absorbed by fish, mammals, birds and humans. Because deca leaches out of the plastics to which it is added, it contaminates our homes, our workplaces, and poses a growing public health and environmental threat. The levels of this chemical in humans and the food we eat have increased rapidly in the relatively short time it has been in production. Deca, like all polybrominated diphenyl ethers, or PBDEs, has been classified as a persistent bioaccumulative toxin.

In 2004, the Maine Legislature moved to ban the sale of products containing two closely-related chemical flame retardants—the "penta" and "octa" mixtures of polybrominated diphenyl ethers or PBDEs [see PL 2003, c. 629]. Deca is the only PBDE mixture still in production. And the Legislature would have banned it along with the penta and octa mixtures but for uncertainty about the availability of safer alternatives at that time.

To ensure that we do not end up replacing deca with something worse, the Legislature took the precaution of expressing its **intent** to ban the sale of products containing deca beginning January 1, 2008 **if a safer, nationally available alternative is identified**. It then directed the DEP, in consultation with the Maine Center for Disease Control, to review information bearing on the availability and safety of deca alternatives, and to report annually on the results of that review.

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We since have filed three reports with you summarizing relevant information in the public domain. The third and most recent of these reports was delivered in January, and leaves no doubt that safer flame retardancy options are feasible and economically available for all applications in which deca currently is used or contemplated.

In fact, the transition to these safer alternatives is well underway. A number of manufacturers that historically used deca already have switched to safer phosphorus-based flame retardants that do not share deca's propensity to build up in the environment and move up the food chain (bioaccumulate).

The issue no longer is whether safer alternatives to deca are available. In the case of TVs, which account for most of the current deca use, the transition to a safer alternative can be accomplished in relatively short order. There are no significant technological barriers preventing TV manufacturers from making the switch. Sony, the world's leading TV producer, and several others already have done so.

In the case of electrical parts and coated wire, deca is not the principal flame retardant used. Where it is used, substitution is feasible and has been accomplished by some users. However, manufacturers of products that have many small electrical parts or extensive wiring (e.g., automobiles, airplanes, and ships) may not be able to easily ascertain which components contain deca. The process of identifying all instances of deca usage in such products and replacing them with a deca-free substitute could take several years, especially if testing or regulatory approval is required. For those reasons, we support a limited ban providing transition to allow manufacturers to make necessary product-substitution over a period of time.

No product applications were identified in which deca is the only flame retardant used or in which deca offers unique or exceptional properties that cannot be obtained from available alternatives. Nor was any application identified in which the use of an alternative requires a compromise in fire safety.

This is to be expected. A chemical is marketed as a flame retardant only after it has been determined through extensive testing that the chemical is suitable for meeting flammability standards. We found no evidence to suggest that flame retardant manufacturers are selling products that don't work. To the

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contrary, the websites of these manufacturers promote the fire safety of all their products, including those currently being used as alternatives to deca.

While there no longer is any question that safer alternatives to deca are available, we do not recommend, at this time, that the Legislature follow through on its stated intent to ban all products containing deca beginning January 1, 2008. Manufacturers will need some time to make the transition.

For the time being, we think the ban should be applied primarily to items causing significant exposure where people live. We thus recommend a ban on the sale of TVs, computers and other electronic devices with exterior casings that are flame retarded with deca. Deca-free, flame resistant plastics suitable for use in the exterior casings of these products are readily available from companies such as Dow Chemical and GE Plastics. Even so, we recommend an effective date of January 1, 2012 to give TV and computer manufacturers who have not already done so time to retool their production processes.

We think it is premature to set any firm date for a ban on the sale of other products in which deca is currently used until more is known about the extent of such uses and the time it will take to deploy alternatives. We are, however, recommending an immediate ban, effective January 1, 2008, on the use of deca in mattresses and residential upholstered furniture. Deca is not currently used in these products, and we want to preclude its use to meet a recently-adopted national flammability standard for mattresses and a pending standard for upholstered furniture.

The DEP fully supports the Maine State Fire Marshal's push for final adoption of national flammability standards for upholstery but there are safer alternatives to deca for meeting those standards. There are many ways to modify mattresses and upholstered furniture to meet flammability standards without using deca or other brominated flame retardants. Mattress manufacturers uniformly have avoided the use of deca to meet the new standard that takes effect on July 1, 2007. And furniture industry sources suggest that, in 99% of cases, chemical flame retardants will not be needed at all to meet national standards for residential upholstered furniture currently under consideration by the Consumer Products Safety Commission. In the rare event that a manufacturer chooses a chemical solution, there are numerous alternatives to deca.

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I close by drawing your attention to two comprehensive new reports on alternatives to deca published since we filed our latest report with you in January. A January 2007 report by the Danish Ministry of the Environment titled "Deca-BDE and Alternatives in Electrical and Electronic Equipment" concludes:

"This study has not identified an application of Deca-BDE in electrical and electronic equipment (EEE) for which substitution is not possible, from the scientific or technical point of view. For all EEE materials and components presently using Deca-BDE, technically acceptable alternatives are available on the market. The widespread use of alternatives, and availability of EEE components without Deca-BDE, is indicated by the fact that a large number of the world's major manufacturers of EEE have phased out the use of Deca-BDE in their products.

A March 2007 "Report on Alternatives to the Flame Retardant DecaBDE" by the Illinois Environmental Protection Agency concludes that there are "a few current DecaBDE uses for which the alternatives still have affordability and/or availability concerns, while there are many uses/products for which a phase-out of DecaBDE is substantially complete or is in progress." With respect to alternatives to deca in TVs and other consumer electronics, the Illinois EPA found that phase-out of DecaBDE was substantially complete with no significant availability or affordability issues, although some manufacturers "may need additional time to complete fire protection tests and product redesign studies."

Link to Maine's third annual report on brominated flame retardants as required under *An Act to Reduce the Contamination of Breast Milk and the Environment from the Release of Brominated Chemicals in Consumer Products*, PL 2003, c. 629, effective July 30, 2004.

<http://www.maine.gov/dep/rwm/publications/legislativereports/pdf/finalrptjan07.pdf>

