SB 295

[redacted] **SENATE COMMITTEE REPORT** [redacted]

First Committee of Referral

DATE: 2/24/10

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: 3/22/10

Health and Social Services Committee considered SENATE BILL NO. 295

SB 295 FLAME RETARDANTS AND TOXIC CHEMICALS

"An Act relating to flame retardants and to the manufacture, sale, and distribution of products contain flame retardants; relating to bioaccumulative toxic chemicals; and providing for an effective date."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
Health	3/13/10	✓			

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AM
Jim Thomas	Thomas	✓			
Lyle Hackman	Hackman	X			
Fred Dyson	Dyson			X	
CHAIR: Bettye Davis	DAVIS	X			

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Joint Armed Services Committee
Resources Committee

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World Trade Committee

SENATOR BILL WIELECHOWSKI

SB 295
SPONSOR STATEMENT

SB 295 will limit the use of polybrominated flame retardants (PBDEs) in products such as mattresses, upholstered furniture, and other textiles.

PBDEs are toxic flame retardants added to certain manufactured products. While fire retardancy is important, some flame retardants used in electronics and other products, such as PBDEs, are leaving a lasting toxic legacy in human beings and the environment.

Laboratory studies show that PBDEs are harmful to people, especially children. PBDEs have been found in the sediment of remote Alaskan lakes, fish, marine mammals, air, polar bear, birds, and sea otters. High PBDE levels found in Yupik mothers living in the Yukon Kuskokwim River Delta are a cause for concern because there is evidence that PBDEs can be passed to their children *in utero* and in breast milk.

Over fifty million pounds of PBDEs continue to be built into TVs, mattresses, and other products annually in North America, even though it is a developmental toxin and possible carcinogen. Safer alternatives exist for PBDEs and 4 states have enacted legislation banning all types of PBDEs while 11 other states have proposed similar legislation.

Please join me in supporting this much needed legislation.

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
STATE OF ALASKA

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MEMORANDUM March 16, 2010

SUBJECT: Sectional Summary (SB 295; Work Order No. 26-LS0890\E)

TO: Senator Bill Wielechowski
Attn: Megan Rogers

FROM: Jean M. Mischel
Legislative Counsel

You have requested a sectional summary of the above-described bill. As a preliminary matter, note that a sectional summary of a bill should not be considered an authoritative interpretation of the bill and the bill itself is the best statement of its contents.

Section 1. Adds a new article relating to toxic chemicals in products.

Sec. 18.31.600. Prohibits a person from manufacturing, selling, or distributing certain products containing 0.1 percent by mass of pentaBDE, octaBDE, and decaBDE, or products otherwise prohibited by the Department of Environmental Conservation (DEC) under sec. 18.31.610 as described.

Sec. 18.31.610. Allows DEC to prohibit by regulation the manufacture, sale, and distribution of products containing a flame retardant that is not a brominated flame retardant if DEC makes certain listed determinations, if DEC consults with the Department of Health and Social Services (DHSS), and if the state fire marshal makes a certain determination.

Sec. 18.31.620. Exempts certain products from the prohibitions in sec. 18.31.600.

Sec. 18.31.630. Requires manufacturers of prohibited products to inform retailers in the state of the prohibitions in sec. 18.31.600 and the penalty in AS 18.31.660.

Sec. 18.31.640. Directs DEC to develop a program to help retailers identify prohibited products.

Sec. 18.31.650. Allows DEC to request that the manufacturer of a product that is suspected of being sold in violation of sec. 18.31.600 (1) provide a sworn certificate that the product does not violate AS 18.31.600, or (2) notify retailers that the sale is prohibited and provide DEC with retailer names and addresses.

Sec. 18.31.660. Subjects a violator of secs. 18.31.600 - 18.31.650 to a civil penalty.

Sec. 18.31.670. Directs DEC to review certain hazards and risks of brominated fire retardants, review possible alternatives, and review EPA findings and rulings related to brominated flame retardants and alternatives.

Sec. 18.31.680. Directs DEC, in consultation with DHSS, to establish and update every three years a list of persistent bioaccumulative toxic chemicals occurring in or used in products used by human beings. Requires consideration of specified information when establishing the list.

Sec. 18.31.690. Allows DEC to participate in establishing and using a regional multistate clearinghouse to help DEC carry out its duties under this article and to help coordinate education and outreach activities related to brominated flame retardants.

Sec. 18.31.710. Allows DEC to adopt regulations to implement this new article.

Sec. 18.31.790. Defines terms for this new article.

Section 2. A transition section to allow DEC to adopt its regulations before the Act goes into effect.

Section 3. A transition section indicating when DEC is to establish its first required list of persistent bioaccumulative toxic chemicals.

Section 4. Directs the revisor of statutes to make certain technical changes caused by the addition of the new article.

Section 5. Makes sec. 2 effective immediately.

Section 6. Makes the rest of this Act effective January 1, 2011.

If I may be of further assistance, please advise.

JMM:ljw
10-188.ljw

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB295**
() Publish Date:

Identifier (file name): SB295-DHSS-EPI-3-13-10
Dept. Affected: Health & Social Services

Title: Flame Retardants and Toxic Chemicals
RDU: Public Health
Component: Epidemiology

Sponsor: Wielechowski

Requester: Senate HSS
Component Number: 296

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	37.3		37.3				
Travel							
Contractual	8.8		8.8				
Supplies	0.5		0.5				
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**46.6**	**0.0**	**46.6**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	46.6		46.6				
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**46.6**	**0.0**	**46.6**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

The bill requires the Department of Environmental Conservation (DEC) to work with Health & Social Services to establish a list of persistent bioaccumulative toxic chemicals that occur or are used in products used by human beings, and to develop a comprehensive strategy to reduce and phase out the products and other sources of the toxic chemicals on the list. DHSS would be consulted by DEC in three situations when: (1) proposing to prohibit a flame retardant under Section 18.31.610; (2) performing a one-time review of brominated flame retardants under Section 18.31.670; and (3) establishing a list every three years of persistent bioaccumulative toxic chemicals that occur or are used in products used by human beings. This environmental health consultation will require a total appropriation of $46.6 GF. This will not require a new position as as the work will done by an existing PCN that is only partially funded. Personal Services for 0.25 FTE Health Program Manager III will be $37.3. Additional costs of $9.3 are for are for indirect contractual costs and office supplies. No travel or equipment costs are anticipated. It is anticipated that this project will not take more than 2 years to complete.

Prepared by: Ward B. Hurlburt, MD, MPH, Chief Medical Officer/Director
Phone 907-269-8126
Division: Public Health
Date/Time 3/9/10 12:00 AM

Approved by: Alison Elgee, Assistant Commissioner
Date 3/13/2010
DHSS Finance & Management Services

What are Polybrominated Diphenyl Ethers (PBDEs)?
Polybrominated Diphenyl Ethers (PBDEs) are chemicals used as flame retardants in many consumer products. The EPA is concerned that certain PBDE's are persistent, bioaccumulative, and toxic to both humans and the environment.

Why should Alaskans be concerned about these chemicals?
PBDEs impact our hormones, our ability to learn, can cause developmental problems and affect the male reproductive system (decreased sperm count and testicular cancer).

Are these chemicals found in Alaska?

- The highest known concentrations of PBDEs in human populations in the Arctic were found in Yupik women from the Yukon Kuskokwim Delta of Alaska.[i]
- In the most recent study of wild Alaskan salmon, mean PBDE levels were higher than those reported in previous studies of Alaskan salmon.[ii]
- PBDEs were found in blood samples of all 8 Alaskans who participated in biomonitoring projects.
- Exposure to PBDEs can happen *in utero* and through breast milk.

The solution.
Across the country states are passing laws to prohibit the manufacturing, selling and distribution of products that contain PBDE's.

Senate Bill 295 will end in-state sales of TVs, computers, mattresses, and residential upholstered furniture containing the toxic flame retardant by 2011.

Senate Bill 295 also:

- Allows the Department of Environmental Conservation (DEC) work with businesses to implement the law;
- Allows for exemptions for the transportation, mining and power industries;
- Allows DEC to work with other state agencies to share information; and
- Directs DEC to compile a list of chemicals of concern.

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[i] Arctic Monitoring and Assessment Programme (AMAP). 2009. AMAP Assessment 2009: Human Health in the Arctic, p. 93. Available: www.amap.no [Accessed 31 December 2009].
[ii] Shaw SD, Berger ML, Brenner D, Carpenter DO, Tao L, Hong CS, et al. 2008. Polybrominated diphenyl ethers (PBDEs) in farmed and wild salmon marketed in the Northeastern United States. Chemosphere, 71: 1422-1431.

Safer Alternatives to Deca

Achieving Fire Safety Without Toxic Chemicals

... We did not see any evidence thatflame retardants being used as alternatives to decaBDE do not meet all required fire safety standards.[i] - Illinois Environmental Protection Agency

SB 295 would limit the use of Deca in the following products:
• TVs • Computers • Residential Upholstered Furniture • Mattresses

Current Uses of Deca:

Approximately 80% of Deca used in the United States is in electronics, with the vast majority used in the plastic casings of televisions. The use of Deca in computer monitors is extremely rare. According to Washington State, 95% of computer products are Deca-free.[ii]

Textiles comprise the second largest use of Deca in the country. However, the chemical is not currently typically used in residential upholstered furniture and "furniture industry sources suggest that, in 99% of cases, chemical flame retardants will not be needed to meet pending national standards for residential upholstered furniture."[iii]

With regard to mattresses, Deca was previously used by manufacturers. However, the industry has made a shift. "The International Sleep Products Association (ISPA), a trade association representing mattress manufacturers, reports that all its members use fire-resistant barriers that minimize the need for flame retardant chemicals." In addition, manufacturers have uniformly avoided the use of Deca to meet a national flammability standard that took effect in July 2007.[iv]

Current Uses of Deca.

Plastic housing of TVs	Vast majority
Plastic housing of computers	Very rare
Residential upholstered furniture	Not Used
Mattresses or mattress pads	Industry shift away from Deca

Fire Safety Standards for TV

Underwriters Laboratory (UL) sets fire safety standards for TVs sold in the United States.

The UL standard for TV enclosures requires the UL 94 V-0 rating for any plastic within two inches of an ignition source.

This is a vertical burn test where five vertically mounted samples of plastics are exposed to two consecutive ten-second ignitions from an open flame. The UL 94 V-0 rating, one of the most stringent, means that:

- The extinguishment time for each sample does not exceed 10 seconds
- The total combustion time for all five samples does not exceed 50 seconds
- The afterglow time per sample does not exceed 30 seconds
- There were no flaming drips
- No burning occurred up to the holding clamps

Deca-free TVs that meet the UL 94 V-0 standard are already on the market.

95% of Computers are already Deca-free

Source: Washington State DEP. *Washington State Polybrominaled Diphenyl Ether (PHDE) Chemical Action Plan: Final Plan.* January 2006.

Meeting Fire Safety Standards

Fire safety standards for televisions, computers, furniture, and mattresses can be achieved without Deca by using non-chemical and chemical substitutes.

Non-chemical alternatives to Deca can include the redesign of a product or the use of materials that are inherently more flame resistant. For example, in electronic equipment, metal components could be used to protect the power supply. And with textiles, easily ignitable fabrics could be replaced with materials that are difficult to ignite or burn more slowly (such as wool).[v]

Fire safety standards can also be met by using chemical alternatives to Deca. For example, a phosphorous-based compound called resorcinol bis (diphenyl phosphate) (RDP) is a common substitute for Deca in electronics. According to the Maine Department of Environmental Protection and the Maine Center for Disease Control and Prevention, "RDP presents a significantly lower threat to the environment and human health than decaBDE."[vi]

Affordable Alternatives:

Alternatives to Deca are not only available, but are cost effective. According to reports written by the states of Illinois, Maine, and Minnesota, there are affordable alternatives to Deca for consumer electronics, residential upholstered furniture, and mattresses.

In fact, many of these alternatives are already being used in the marketplace. For instance, Washington State estimates that roughly 57% of televisions and 95% of computer products do not contain Deca.[vii] And as noted above, mattress manufacturers have already shifted away from the use of Deca.

Many electronic manufacturers have already removed Deca from their products including:

- Sony
- Apple
- LG Electronics
- Sharp
- Dell
- Samsung
- Lenovo
- Hewlett Packard
- Panasonic
- Phillip
- Toshiba Personal Computing

Source: Clean Production Action. Progress Towards PVC and BFR Elimination by Leading Electronic Manufacturers Selling Products in the US. February 2008.

Leading mattress manufacturers that do not use Deca include:

- Sealy
- Kingsdown
- Simmon
- Englander
- Serta
- Tempur-Pedic
- Select Comfort
- International Bedding Corp.
- Restonic
- Corsicana
- King Koil
- Lady Americana

Source: Michigan Network for Children's Environmental Health. Leading Companies Not Using Deca-BDE. Available at: http://www.mnceh.org/Fact%20Sheets%20-%20MNCEH/Deca_leading_companies_not_using_BDE_10262009d.pdf

For all applications in which decaBDE currently is used, alternatives without decaBDE are available ... No applications were identified in which decaBDE is the only flame retardant used or in which decaBDE offers unique or exceptional properties. No application was identified in which the use of alternatives requires a compromise in fire safety.[viii]

– Maine Department of Environmental Protection & Maine Center for Disease Control and Prevention

(Tbe information in this factsheet was compiled by Vermont PIRG)

i Illinois Environmental Protection Agency, *Report on Alternatives to the Flame Retardant DecaBDE: Evaluation a/Toxicity, Availability, Affordability, and Fire Safety Issues* (Appendix I, p.16), March 2007.

ii Washington State DEP. *Washington State Polybrominated Diphenyl Ether (PBDE) Chemical Action Plan: Final Plan* (p.65). January 2006.

iii Maine Department of Environmental Protection and Maine Center for Disease Control and Prevention, *Brominated Flame Retardants: Third Annual Report to the Maine Legislature* (p.25-26, 35), January 2007.

iv Maine Department of Environmental Protection and Maine Center for Disease Control and Prevention, *Brominated Flame Retardants: Third Annual Report to the Maine Legislature* (p.26, 35), January 2007.

v The Lowell Center for Sustainable Production, University of Massachusetts Lowell, *Decabromodiphenylether: An Investigation of Non-Halogen Substitutes in Electronic Enclosure and Textile Applications* (p.35), April 2005.

vi Maine Department of Environmental Protection and Maine Center for Disease Control and Prevention, *Brominated Flame Retardants: Third Annual Report to the Maine Legislature* (executive summary), January 2007.

vii Washington State DEP. *Washington State Polybrominated Diphenyl Ether (PBDE) Chemical Action Plan: Final Plan* (p.65). January 2006.

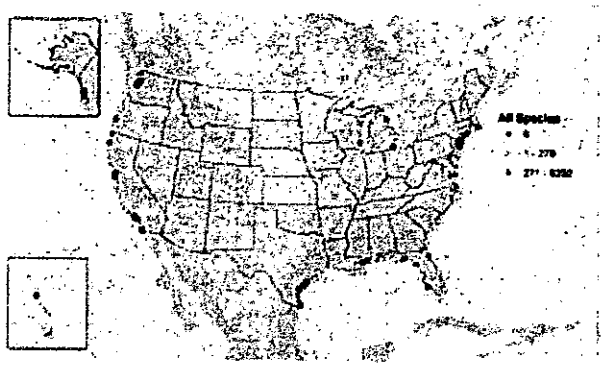
viii Maine Department of Environmental Protection and Maine Center for Disease Control and Prevention, *Brominated Flame* Retardants: Third Annual Report to the Maine Legislature (p.36), January 2007.

NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
UNITED STATES DEPARTMENT OF COMMERCE

NOAA Report Calls Flame Retardants Concern to U.S. Coastal Ecosystems

Health Care Concerns Also Noted

April 1, 2009



National Distribution of 200X PBDE tissue concentration in parts per billion lipid weight (where 200X = between 2004 and 2007). Categories low (green dot), Medium (yellow dot), High (red dot) were determined by cluster analysis.

High resolution (Credit: NOAA)

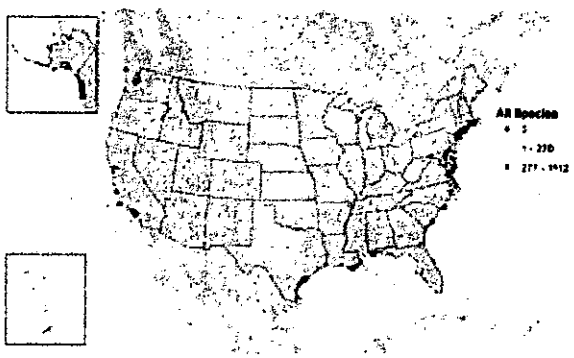
NOAA scientists, in a first-of-its-kind report issued today, state that Polybrominated Diphenyl Ethers (PBDEs), chemicals commonly used in commercial goods as flame retardants since the 1970s, are found in all United States coastal waters and the Great Lakes, with elevated levels near urban and industrial centers.

The new findings are in contrast to analysis of samples as far back as 1996 that identified PBDEs in only a limited number of sites around the nation.

Based on data from **NOAA's Mussel Watch Program**, which has been monitoring coastal water contaminants for 24 years, the nationwide survey found that New York's Hudson Raritan Estuary had the highest overall concentrations of PBDEs, both in sediments and shellfish. Individual sites with the highest PBDE measurements were found in shellfish taken from Anaheim Bay, Calif., and four sites in the Hudson Raritan Estuary.

Watersheds that include the Southern California Bight, Puget Sound, the central and eastern Gulf of Mexico off the Tampa-St. Petersburg, Fla. coast, and Lake Michigan waters near Chicago and Gary, Ind. also were found to have high PBDE concentrations.

"This is a wake-up call for Americans concerned about the health of our coastal waters and their personal health," said John H. Dunnigan, NOAA assistant administrator of the National Ocean Service. "Scientific evidence strongly documents that these contaminants impact the food web and action is needed to reduce the threats posed to aquatic resources and human health."



National Distribution of 1996 PBDE tissue concentration in parts per billion lipid weight. Categories low (green dot), Medium (yellow dot), High (red dot) were determined by cluster analysis.

High resolution (Credit: NOAA)

PBDEs are man-made toxic chemicals used as flame retardants in a wide array of consumer products, including building materials, electronics, furnishings, motor vehicles, plastics, polyurethane foams and textiles since the 1970s. A growing body of research points to evidence that exposure to PBDEs may produce detrimental health effects in animals, including humans. Toxicological studies indicate that liver, thyroid and neurobehavioral development may be impaired by exposure to PBDEs. They are known to pass from mother to infant in breast milk.

Similar in chemical structure to polychlorinated biphenyls, or PCBs, they have raised concerns among scientists and regulators that their impacts on human health will prove comparable. PBDE production has been banned in a number of European and Asian countries. In the U.S., production of most PBDE mixtures has been voluntarily discontinued.

The NOAA Mussel Watch survey found that the highest concentrations of PBDEs in the U.S. coastal zone were measured at industrial and urban locations. Still, the chemicals have been detected in remote places far from major sources, providing evidence of atmospheric transport. Significant sources of PBDEs introduction into the environment include runoff and municipal waste incineration and sewage outflows. Other pathways include leaching from aging consumer products, land application of sewage sludge as bio-solids, industrial discharges and accidental spills.

NOAA and the Southern California Coastal Water Research Project have recently held meetings with representatives from the Environmental Protection Agency, U.S. Geological Survey, the National Institute of Standards and Technology, and the California State Water Resources Control Board to discuss water quality monitoring of emerging contaminants. NOAA's research and monitoring information found in this report will be used by relevant resource managers to better understand, assess and address the threats from PBDEs.

NOAA understands and predicts changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and conserves and manages our coastal and marine resources.

Respected Burn Physician Encourages EPA Deca-BDE Phase-Out Initiative

2/17/2010 (printed in Citizens For Fire Safety newsletter, cffsi.org, 310-310-2616)

I am writing to express my support for a national solution to the EPA's recent deca-BDE phaseout. Any individual state bill that would immediately ban fire safety protections without the development of alternatives is dangerous. As a director of burn centers for 37 years, I have seen the ravages of burns and the devastating effects of these injuries that inflict both the burn survivor and their families. Burns are some of the most physically and emotionally damaging, as well as some of the most monetarily costly injuries. The extensive medical procedures necessary to restore any vestige of normalcy to these patients is costly both to the families and the hospital. These fire safety products, flame retardants, allow critical seconds for these most vulnerable citizens to escape a burning structure and reduce the chances of more severe burns. The relationship between time of exposure and extent of injury is well known. The greater the surface area burns, the higher the mortality. We are committed to saving lives and preventing burns any way possible. Thus, we are deeply concerned about this reckless and unscientific attempt to weaken standards and put millions of people at risk to serious burn injuries and death.

While I know that this product has saved countless lives over many years, I will encourage and promote a new generation of safe and effective fire retardants. I believe that fire safety manufacturers will commit to their decision to safely phase out existing products, and I commend them for their proactive development of new technologies. A national solution considers the interest of all Americans rather than just those of individual states, and this is the only way to safely progress in national fire protection.

The EPA agreement sets forth a rational, effective transition to newer alternatives, while allowing critical services such as police, fire and airlines to continue to use existing fire safety products that are critically important to saving lives. Manufacturers have already announced the production of environmentally-friendly fire retardants which minimize the use of raw materials,

energy, byproducts and waste. This progressive thinking is largely aresult of the efforts of Citizens for Fire Safety and their coalition ofsupporters across the nation.

As we make this transition, we must remain watchful of legislation that would preemptively ban existing products, leaving communities without adequate fire safety protection. I oppose any preemptive state bans, as I believe the timeline that has been worked out with the EPA is the most appropriate. Let's trust the scientists of the federal environmental agencies and not act precipitously to put our families and children at risk of serious injury or death. An effective national solution to this critical issue is the only solution that is truly safe.

I want to thank you for your time and effort concerning this extremely important matter, and I hope that you will join me as we continue to hold our nation to the highest fire protection standard.

Roger E. Salisbury, MD

Emeritus Director of Burn Center

Westchester Medical Center

Valhalla, New York

Past Vice President, American Bum Associaton

Senator Bettye Davis

March 15th 2010

Capitol Room 30

Juneau, AK 99811

Subject: SB 295, Flame Retardants and Toxic Chemicals

Dear Senator Davis:

I have been reading different articles and publications about an effort to ban certain fire retardants.

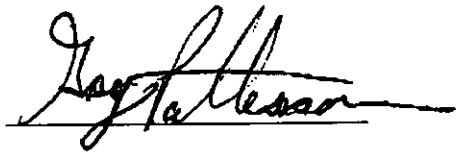
Your committee has a bill it called SB 295 dealing with the banning of these retardants. Because I am interested in human health, the environment and safety this issue has peeked my interest.

After reading the outline of the bill I have some questions.

1) Why is the ban to be placed on some products i.e. bedding etc. but at the same time other products are exempt? If it is so dangerous shouldn't it be on all products across the board that could pose a danger?
2) The bill states that the department in charge will review the hazards after it becomes law. (They will review the hazards after it becomes law??? I have to scratch my head on this one.) Isn't this putting the cart before the horse? Because the scientific community is still out on the dangers of these retardants shouldn't we wait until the Center for Disease Control has finished its definitive research before making this law? It seems that although well intentioned, the ones who wish to rush this into law are running around screaming that the house is on fire when it might be that it is just someone with a book of matches in their pocket. And without the definitive research how many business's will be disrupted and have to incur the substantial costs of complying only to find out that the benefits of these life saving retardants far outweigh the dangers of using them? How many people will be burned if these proven retardants are taken off the market?
3) Let us be very clear, the studies of these bio-accumulative toxins do indicate that dangers under "certain exposure and controls" potentially are very bad. If you will go to www.cdc.gov/toxprofiles/tp68-c4.pdf you can read the CDC's study. One of the first things that the study states is that "conditions have to be ideal" to enter the environment. The study also states that "exposure has to be acute and repeated."

I would urge that you wait until all the data is available. It just isn't clear yet that the way these chemicals are being used meet the standards that actually pose dangers to us. And I am certain that people who are burned and have to go to the burn units certainly would prefer not to suffer that agony.

I am sincerely hoping that your deliberations are insightful and that you continue to protect us.



Greg Patterson

Greg Patterson

1513 Kinnikinnick

Anchorage, AK 99508

Alaska Fire Chiefs Association
Resolution
2007- 07

A RESOLUTION SUPPORTING A BAN UPON THE SALE OF OR IMPORTATION OF PRODUCTS CONTAINING POLYBROMINATED BIPHENYLETHERS FIRE RETARDANTS WITHIN THE STATE OF ALASKA.

WHEREAS Alaska Fire Chiefs Association is an organization dedicated to public safety, and

WHEREAS polybrominated biphenylethers are used as a fire retardant in plastic products but can leach from those products and enter the environment and

WHEREAS high concentrations of polybrominated biphenylethers have been found in breast milk and fat cells of humans living in North America and

WHEREAS polybrominated biphenylethers have been linked with neurological development deficits and immunological impairments in children and

WHEREAS other fire retardants that are effective and less toxic are readily available for use in plastic products,

NOW. THEREFORE, BE IT RESOLVED that:

The Alaska Fire Chiefs Association supports legislative efforts to ban polybrominated biphenylethers containing products from being imported to or sold within the State of Alaska.

Adopted this 6th day of December 2007 during the December teleconference.

Attested by: Douglas R. Schrage, Alaska Fire Chief's Association President

March 16, 2010

The Honorable Bettye Davis, Chair
Senate Health and Social Services Committee
State Capitol Room 30
Juneau AK, 99801

RE: SB 295
Set for hearing, March 17, 2010
Senate Health and Social Services Committee

Dear Senator Davis:

On behalf of the member companies of the American Chemistry Council (ACC), thank you for the opportunity to comment on SB 295, legislation that would, among other things, direct the Department of Health and Social Services to establish, and update every three years a list of "persistent bioaccumulative toxic chemicals (PBTs)" that occur or are used in products used by human beings.

ACC shares the objective of protecting human health and the environment from any significant risks associated with chemicals with PBT properties. PBT substances represent a very small percentage of chemicals in the United States. Many are either strictly regulated, are not currently in production, or are the by-products of human and natural activity. PBTs encompass a range of substances, including some metals and a variety of organic compounds.

As currently drafted, Section 18.31.680 does not contain a clear set of definitions for the characteristics of P or B or T. Though the bill does ask the Department to consider other sources of PBT information (e.g. Washington State PBT program, USEPA high production volume challenge program), ACC believes that the legislation should clearly state that only information and conclusions from "authoritative" sources be used to develop any PBT list. Generally, an authoritative governmental entity or body should be defined as a government agency or formalized scientific organization that satisfies all of the following requirements:

1. It characterizes chemicals pursuant to an open, deliberative and transparent scientific process in which stakeholders are able to participate formally, and communicate directly with the authoritative body through written and oral comments.

2. It does not engage in advocacy.

3. It bases its characterization of chemicals on a weight-of-evidence approach. To the extent available, it considers multiple reliable studies, conducted by different laboratories, at different times, and involving not only different strains but different species and gives full consideration to mode of action, confounding factors, maternal toxicity, historical controls and any other scientific information that may be relevant to understanding the potential effects of chemicals on health and the environment.

4. It publishes its characterizations of chemicals through governmental regulations, periodic reports, monographs or similar publications.

Should Alaska consider making PBT determinations on its own, it is important to understand that the scientific thinking behind identifying and characterizing PBT substances continues to evolve. In 1997 and again in 2008 the Society for Environmental Toxicology and Chemistry (SETAC), sponsored workshops on PBT/POPs substances (aka "Pellston Workshop").

The workshops helped advance the science of PBT characterization by reaching consensus on how to better identify PBTs and POPs at an early stage, using new scientific information and tools, rather than simply defaulting to criteria that have been in place since the late 1970s. This workshop included leading scientists from academia, government, regulatory bodies and industry. Follow-up from the 2008 workshop is underway, and Alaska should consider this scientific discussion on PBTs and POPs to assure that the most up to date, reliable scientific methods are applied.

In addition, the bill as drafted does not answer the question of why the PBT list is being created, nor does the bill provide any insight into the long-range plans for how the Department intends to utilize the list. SB 295 should include specific language that clearly describes the intent and future plans for creating and utilizing a state-specific PBT list.

Finally, ACC encourages your committee to consider adding language to ensure transparency in the PBT list process by providing an opportunity for the public and other interested stakeholders to comment on the development and future use of the list.

Thank you for the opportunity to share these comments. If you or your staff has any questions or comments, please do not hesitate to contact me at 916-448-2581 or via email at tim_shestek@americanchemistry.com

Sincerely,

Tim Shestek
Senior Director, State Affairs

Environmental Stewardship and Fire Safety

By Citizens For Fire Safety

In recent years, the debate about the safety and efficacy of flame retardants has raged on both in state legislatures and in public opinion, pitting concerned mothers and environmentalists against fire safety advocates. Legislation that would seek to ban flame retardants without meaningful scientific support materialized in many states. To support these bans, proponents chose to propagate pseudoscience as truth, drawing their conclusions from speculation rather than science. Unfortunately, the message of a conscientious, responsible chemical industry went largely unheard. In the wake of mass poisonings and news stories on asbestos, PCBs and Tris, it almost makes sense to paint the chemical industry with a large brush. However, it is crucial to separate fact from fiction and to let science have the final say on safety.

The most widely used and ferociously debated flame retardant is Deca-BDE or decabromodiphenyl ether. This particular flame retardant is used in a variety of applications, from electronics to furnishings. It helps slow the progress of a fire and can mean the difference between an ignition source sustaining charring and total devastation of a structure. Many environmentalists and social activists have heard mixed messages about the safety of this product. Those advocating the removal of flame retardants have cited its toxicity and bioaccumulation. They lump Deca into a category of proven toxic chemicals without basis. The "science" used to substantiate their claims is speculative at best. The reality is that the studies that exist on this topic are isolated to mice and rats and consist of dosages far exceeding those present in products or seen in environmental studies. The more confusion and misinformation promulgated about this issue the less safe we will all be in the end.

Here are the facts: Deca-BDE is by far the most studied and most understood flame retardant available commercially. In fact, it was the sole focus of a 10-year-long Risk Assessment conducted by the European Union, and has also been analyzed and by such other groups as the US EPA, the National Academy of Sciences and the Consumer Product Safety Commission,

all of which have concluded that the product is safe for continued use. Most recently, a study sponsored by an industry affiliate concluded that Deca-bde poses no risk to human health. There have been claims that Deca-bde degrades into other toxic chemicals. This is untrue. This matter was extensively reviewed under the European Risk Assessment of Deca-BDE and, after reviewing the most recent data available through August 2005, the European Union reinforced its earlier findings on degradation.

In fact, laboratory studies indicating degradation of Deca-BDE do not reflect real environmental conditions. These studies use artificial conditions, including specially cultivated bacteria and accelerants, to produce an artificial degradation potential. Studies carried out under realistic environmental conditions find no indications for degradation of Deca to substances of concern. The findings of the European Risk Assessment of Deca-BDE, including the findings on degradation, were reviewed, updated and reaffirmed in December 2007.

Deca-BDE, is not a persistent, bioaccumulative and toxic (PBT) substance. Deca is not classified as a PBT by the U.S. Environmental Protection Agency. Deca is persistent, which means it will be present in the consumer good throughout the life of that product, providing protection against fires.

While there may still be questions regarding yet-to-be determined risks, there are things we do know about this chemical. We know that it saves lives. We know that its efficacy is unquestioned and that the crucial moments that it adds allow firefighters to extinguish a blaze and would-be victims to escape with their lives and possessions.

It's always important to ask questions about environmental stewardship, and it's often easy to assume that being "anti-chemical" is aligning yourself with the right position on an issue. And while it is true that without careful stewardship, chemicals can be bad for our environment, it is also important to recognize that chemophobia is not an answer. There are many chemicals that exist in the world

around us—some good, some not so good. But the distinction between those that are helpful and those that are harmful cannot be more empathically stated. We must remain vigilant about public health and the environment, but we must never be reckless concerning something as vital as fire safety.

ACAT
Alaska Community Action on Toxics

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Senator Bettye Davis and Members of the Committee
Senate Health and Social Services Committee
State Capitol
Juneau, AK 99801-1182

March 16, 2010

Dear Chair Davis and Members of the Senate Health and Social Services Committee:

Alaska Community Action on Toxics urges your support of SB 295, *"An Act relating to flame retardants and to the manufacture, sale, and distribution of products containing flame retardants; relating to bioaccumulative toxic chemicals; and providing for an effective date."* Alaska Community Action on Toxics ("ACAT") is a statewide environmental health organization that conducts research and provides educational programs, technical assistance, and training. Thank you for providing the opportunity of a hearing on this bill in the Senate Health and Social Services Committee on Wednesday March 17, 2010.

Polybrominated diphenyl ethers, or PBDEs, are a class of flame retardant chemicals added in the manufacturing process of plastics, fabric or foam padding to reduce the flammability of computers, upholstered furniture, appliances and other products. Three mixtures used widely—penta-BDE, octa-BDE, and deca-BDE—made up 14%, 6%, and 80% of the 1999 worldwide production, respectively. They can be released from these manufactured items.

PBDEs are part of a larger chemical class called polyhalogenated aromatic hydrocarbons (PHAHs) which include other highly toxic chemicals such as polychlorinated biphenyls (PCBs) and dioxins. PHAHs are intrinsically hazardous because of their chemical make-up: (1) they persist in the environment and do not break down easily; (2) they are lipophilic, meaning they build up in fatty tissues of living organisms; and (3) they have toxic properties, including the potential to act as endocrine disruptors. Their persistence and fat solubility allow them to both biomagnify and bioaccumulate. Thus, PBDEs build up in the bodies of animals and humans as they move through the food chain. Concentrations of PBDEs have increased over the years in marine mammals due to atmospheric transport of chemicals into the north (transported long distances from areas of production and use via air and ocean currents) and bioaccumulation. Although the main component in deca-BDE, BDE-209, has a relatively short half-life in people, animal studies show that the liver breaks down BDE-209 into the more persistent and bioaccumulative forms of PBDEs. Research indicates that we may be exposed to PBDEs through our diet, household air, household dust, and certain jobs.

Due to their widespread use, persistence and bioaccumulative properties, PBDEs have been found in humans at high levels. A recent study by scientists from the U.S. Centers for Disease Control and Prevention (CDC) found PBDEs in nearly all 2,040 participants in a sample representative of the 2003-2004 U.S. population. Another study showed that 5 percent of American women have levels of PBDEs that are close to the levels linked to reproductive problems in animals. PBDEs have been found in mothers' breast milk and in the blood of mothers and their babies. People of the Arctic,

including Alaska, may experience an even higher risk of exposure due to their traditional subsistence diet rich in fat from marine mammals. The highest known concentrations of PBDEs in human populations in the Arctic were found in Yupik women from the Yukon Kuskokwim Delta of Alaska. In a study of this population, 210 samples of blood serum were tested for PBDEs. The levels of PBDEs found were similar to those seen in studies of people from the continental United States. Similar studies on European populations have shown that Europeans have 3-10 times *lower* levels of PBDEs.

The following information is intended to inform you about the current state of knowledge on the health effects of PBDEs, including both human and animals studies. Research has found associations between PBDEs and many adverse health effects, including:

Neurodevelopmental Effects: Human studies indicate that prenatal exposure to PBDEs adversely affect childhood development including compromised fine motor skills and attention, and decreases in mental and physical development. A recent peer-reviewed scientific consensus statement by the Collaborative on Health and the Environment's Learning and Developmental Disabilities Initiative states, "*Recent studies have left little doubt that PBDEs are developmental neurotoxicants in animals and lead to changes in motor activity and reduced performance on learning and memory tests.*" Numerous studies on rodents suggest that neonatal exposure to PBDEs permanently affects learning and memory functions, impairs motor activity, and is linked to aberrations in spontaneous motor behavior and hyperactivity.

Thyroid Problems: Some PBDE congeners are structurally similar to thyroid hormone and have been shown to disrupt (by decreasing, increasing, or mimicking) the biological action of thyroid hormone. In a study of newborn babies, high PBDE levels in cord blood were associated with decreased levels of thyroid hormones. PBDE exposure has also been linked to hypothyroidism in adults. Corresponding animal studies have also shown that PBDE exposure is linked to decreased circulating concentrations of thyroid hormone and decreased thyroid weight in adult rodent offspring. Exposure to deca-BDE has been linked to thyroid hyperplasia in rodent studies. In a 2-year study by the National Toxicology Program, deca-BDE was found to increase the incidence of follicular cell hyperplasia (proliferation of follicular cells, which are responsible for making thyroid hormones) in the thyroid gland in male and female mice.

Reproductive Effects: PBDEs can be both mildly estrogenic and anti-androgenic compounds. PBDEs have been correlated to cause cryptorchidism, or undescended testes in new born boys, and permanent impairment of sperm development in laboratory animal studies. In human, exposure to PBDEs has been associated with a decrease in testicle size and the sperm concentration in humans. Exposure to PBDEs in household dust at levels commonly encountered in the US has been linked with lower levels of androgens (male hormones) in adult men. PBDEs have also been associated with delay of puberty in both male and female rodents and changes in sexual development and gender-specific sexual behavior. Exposure to PBDEs has been linked to low birth weight, birth defects, reduced weight gain during pregnancy, changes in ovary cells and reduced sperm count. The breakdown products of PBDEs may inhibit human aromatase, an enzyme important in the formation of androgens and estrogens (male and female hormones), and in skeletal development.

Cancer: One study suggests that *in utero* exposure to PBDE concentrations is associated with an increased risk of testicular cancer in men. The Agency for Toxic Substances and Disease Registry (ATSDR) lists deca-BDE as a possible human carcinogen based on the development of liver tumors in rats.

PBDEs pose a threat to public health. Firefighters are at particular risk because they are exposed to toxic fumes while on the job. When combusted, PBDEs release a highly corrosive gas known as hydrogen bromine. In a letter to Mark Drygan, president of the Alaska Professional Fire Fighters Association, Richard M. Duffy, Assistant to the General President of the International Association of Fire Fighters (IAFF), on behalf of IAFF writes: "Many studies involving fire fighters exposed to these and other toxic gases during active fire fighting, overhaul, and long term exposure from these chemicals penetrating protective gear, have found that fire fighters have a much greater risk of contracting cancer, heart and lung disease, and other debilitating diseases." In the same letter, Duffy states, "the IAFF believes that the passage of legislation addressing brominated flame retardants (Polybrominated diphenyl ethers (PBDEs) including Penta-, Octa-, and Deca-BDEs) is a step in the right direction for improving the health and safety of our fire fighters and the citizens who are exposed to these."

We do not have to compromise fire safety by phasing out brominated flame retardants because safe and affordable alternatives are available to replace the need for these toxic chemicals in our household products. Industry has already voluntarily phased out the use of penta- and octaBDE, and affordable, less toxic flame retardants are available for all deca-BDE uses. On December 17, 2009 the U.S. Environmental Protection Agency announced that the two U.S. producers of deca-BDE and the largest U.S. importer have committed to end production, importation, and sales of deca-BDE for most used in the United States. According to reports written by the states of Illinois, Maine, and Minnesota, there are affordable alternatives to deca-BDE for consumer electronics, residential upholstered furniture, and mattresses. In fact, many of these alternatives are already being used in the marketplace. For instance, Washington State estimates that roughly 57% of televisions and 95% of computer products do not contain deca-BDE. Furthermore, many companies are taking the lead in using safer alternatives, including Apple, Dell, Sony, Sharp, Samsung, Phillips, Sealy, Serta, Select Comfort, and many others.

In summary, SB 295 presents a viable tool for protecting the health of Alaskan workers, public health, and the environment. We believe that implementation of this bill will not create hardship for local businesses, as there are many viable and economic alternatives. Thank you for your careful consideration of the merits of this bill. We urge the Committee to ensure its passage.

Sincerely,

Pamela K. Miller
Executive Director
Alaska Community Action on Toxics

Colleen Keane
Environmental Health Organizer
Alaska Community Action on Toxics

CC: Co-Chair Senator Joe Paskvan
Senator Fred Dyson
Senator Johnny Ellis
Senator Joe Thomas
Senator Bill Wielechowski

Enclosure

Protect Public Health
SB 295/HB 385 "Flame Retardants and Toxic Chemicals"

Flame retardants are widely used in a variety of products to prevent and slow the spread of fire. While fire retardancy is important, some flame retardants, known as polybrominated diphenyl ethers or PBDEs, used in electronic and other products are leaving a lasting toxic legacy in people and the environment. With cost-effective and equally fire-safe alternatives available, it's time to phase out PBDEs.

- Polybrominated diphenyl ethers, or PBDEs, are a class of flame retardant chemicals added to many consumer products found in the home, office, automobiles, and airplanes.
- The three mixtures used most widely are penta-BDE, octa-BDE, and deca-BDE.
- Commonly found in electronics, such as the plastic casings of TVs and computers, and used in some furniture foams, textiles, and kitchen appliances, industry voluntarily ended production in the United States of the formulations of penta and octa in 2004 after high levels were found in breast milk.
- Over fifty million pounds of the toxic flame retardant decaBDE continue to be built into TVs, mattresses, and other products annually in North America.
- DecaBDE is a developmental toxin and listed as possible human carcinogen.
- Many electronic companies have found safer substitutes and have phased out the use of PBDEs.

The American Public Health Association, the International Association of Fire Fighters, and the Alaska Professional Fire Fighters Association have recommended the phase out of toxic PBDE flame retardants.

ALASKA'S FLAME RETARDANTS AND TOXIC CHEMICALS BILLS – SB 295 & HB 385

- Phases out the manufacture and sale of products containing penta- and octa-BDEs by January 1, 2011.
- Phases out the manufacture and sale of electronic products, furniture, textiles, and mattresses containing deca-BDE by 2011.
- Exempts transportation vehicles; products or equipment for industrial and mining use; products or equipment used in a manufacturing process; electronic wiring; resold items; and items brought into the state before the effective date.
- Empowers Alaska State Department of Environmental Conservation (ADEC) to ban other products containing flame retardants if it is determined that it is harmful to public health or the environment, and if reasonable safe alternatives exist.
- Requires several state departments to complete a review of the risks of PBDEs, possible alternatives, and the findings from other U.S. agencies.
- Requires ADEC to develop a list of "chemicals of concern" that are persistent bioaccumulative toxics, including those that are cancer-causing, mutagenic, developmental or reproductive toxicants, neurotoxic, or endocrine disruptors.

WHAT ARE TOXIC FLAME RETARDANTS?

Polybrominated diphenyl ethers, or PBDEs, are a class of flame retardant chemicals added to many consumer products found in the home, office, automobiles, and airplanes. The three most common commercial classes of PBDEs are penta-BDE, octa-BDE, and deca-BDE. PBDEs are also part of a broader chemical class called polyhalogenated aromatic hydrocarbons (PHAHs) which include other highly toxic chemicals such as PCBs and dioxins. PBDEs are intrinsically hazardous because of their chemical characteristics: (1) they are stable, meaning that they are persistent in the environment and do not break down easily; (2) they are lipophilic, meaning that they accumulate in fatty tissues of living organisms; and (3) they have toxic properties, including the potential to act as endocrine disruptors. Their persistence and fat solubility allow them to both bio-magnify and bio-accumulate, meaning that they build up in the bodies of animals and humans.

Increasing Levels

PBDE levels are increasing at an exponential pace, as they are still largely unregulated in the U.S.

- The highest known concentrations of PBDEs in human populations in the Arctic were found in Yupik women from the Yukon Kuskokwim Delta of Alaska.[1]
- Levels of PBDEs in U.S. women's breast milk are 10-100 times higher than levels in European women.[2,3]
- Concentrations of PBDEs have increased over the years in marine mammals due to atmospheric transport and bioaccumulation.[3]

HEALTH CONCERNS

Developmental Effects: Studies in laboratory animals indicate that neonatal exposure to PBDEs permanently damages learning and memory functions, impairs motor activity, and is linked to permanent behavioral aberrations and hyperactivity.[4,5]

Reproductive Effects: PBDE exposures have been correlated with cryptorchidism, or undescended testes in new born boys,[6] and permanent impairment of sperm development in laboratory animal studies.[5] Exposures have also been associated with the delay of puberty in both male and female laboratory animals and alterations in sexual development and gender-specific sexual behavior.[7]

Cancer: One study suggests that *in utero* exposure to PBDEs is associated with an increased risk of testicular cancer in men.[8] The Agency for Toxic Substances and Disease Registry (ATSDR) lists deca-BDE as a possible human carcinogen based on the development of liver tumors in laboratory animals.[9]

Thyroid Problems: Recent animal studies have shown that PBDE exposure is linked to decreased circulating concentrations of thyroid hormone[5] and to a decrease in thyroid weight in adult offspring.[7]

SAFER ALTERNATIVES ARE AVAILABLE

Alternatives to the use of PBDE flame retardants are available and cost effective. Alternatives include product redesign to eliminate the need for added chemicals. According to reports written by the states of Illinosi, Maine, and Minnesota, there are affordable alternatives to deca-BDE for consumer electronics, residential upholstered furniture, and mattresses. In fact, many of these alternatives are already being used in the marketplace. For instance, Washington State estimates that roughly 57% of televisions and 95% of computer products do not contain deca-BDE.

Many companies are taking the lead in using safer alternatives, including Apple, Dell, Xerox, Ericsson, IBM, Intel, Motorola, Sony, Panasonic, Phillips, Sealy, Serta, Select Comfort, and many others. and others. Here is what the leading companies are saying about eliminating deca-BDE in their products:

"All virgin plastics presently used by Sony are 'deca-free' (Decabromodyphenyl ether). These products meet all relevant fire safety standards."
-Sony Electronics; March. 2006

"We currently avoid the use of BFRs (brominated flame retardants) by using plastics that can be flame retarded with non-halogenated compounds and by using design strategies that reduce the need to use flame retarded plastics at all."
-Dell Computer Corporation; December 2005

"HP eliminated the use of two brominated flame retardants (BFRs) PBB and PBDE...HP has removed the remaining BFRs from the plastic housings of the vast majority of HP products."
-HP; March 2006

"The use of PBDEs in mattresses today – which is limited already – will likely be voluntarily phased out entirely in the near future."
-International Sleep Products Association; November 2003

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Safer Alternatives to Deca

Achieving Fire Safety Without Toxic Chemicals

*... **We did not see any evidence thatflame retardants being used as alternatives to decaBDE do not meet all required fire safety standards.*** [i] - Illinois Environmental Protection Agency

SB 295 would limit the use of Deca in the following products:
• TVs • Computers • Residential Upholstered Furniture • Mattresses

Current Uses of Deca:

Approximately 80% of Deca used in the United States is in electronics, with the vast majority used in the plastic casings of televisions. The use of Deca in computer monitors is extremely rare. According to Washington State, 95% of computer products are Deca-free.[ii]

Textiles comprise the second largest use of Deca in the country. However, the chemical is not currently typically used in residential upholstered furniture and "furniture industry sources suggest that, in 99% of cases, chemical flame retardants will not be needed to meet pending national standards for residential upholstered furniture."[iii]

With regard to mattresses, Deca was previously used by manufacturers. However, the industry has made a shift. "The International Sleep Products Association (ISPA), a trade association representing mattress manufacturers, reports that all its members use fire-resistant barriers that minimize the need for flame retardant chemicals." In addition, manufacturers have uniformly avoided the use of Deca to meet a national flammability standard that took effect in July 2007.[iv]

Current Uses of Deca.

Plastic housing of TVs	Vast majority
Plastic housing of computers	Very rare
Residential upholstered furniture	Not Used
Mattresses or mattress pads	Industry shift away from Deca

Fire Safety Standards for TVs

Underwriters Laboratories (UL) sets the safety standards for TVs sold in the United States.

The UL Standard for TV enclosures requires the UL 94 V-0 [illegible] plastic within [illegible] inches of an ignition source.

This is a vertical burn test where five vertically mounted samples of plastics are exposed to two consecutive ten-second ignitions from an open flame. The UL 94 V-0 rating, one of the most stringent, means that:

• The extinguishment time for each sample does not exceed 10 seconds
• The total combustion time for all five samples does not exceed 50 seconds
• The afterglow time per sample does not exceed 30 seconds
• There were no flaming drips
• No burning occurred up to the holding clamps

Deca-free TVs that meet the UL 94V-0 standard are already on the market.

95% of Computers are already Deca-free

Source: Washington State DEP. *Washington State Polybrominaled Diphenyl Ether (PHDE) Chemical Action Plan: Final Plan*, January 2006.

Meeting Fire Safety Standards

Fire safety standards for televisions, computers, furniture, and mattresses can be achieved without Deca by using non-chemical and chemical substitutes.

Non-chemical alternatives to Deca can include the redesign of a product or the use of materials that are inherently more flame resistant. For example, in electronic equipment, metal components could be used to protect the power supply. And with textiles, easily ignitable fabrics could be replaced with materials that are difficult to ignite or burn more slowly (such as wool).[v]

Fire safety standards can also be met by using chemical alternatives to Deca. For example, a phosphorous-based compound called resorcinol bis (diphenyl phosphate) (RDP) is a common substitute for Deca in electronics. According to the Maine Department of Environmental Protection and the Maine Center for Disease Control and Prevention, "RDP presents a significantly lower threat to the environment and human health than decaBDE."[vi]

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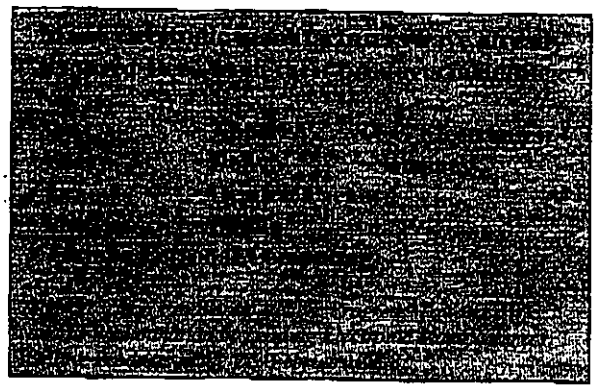
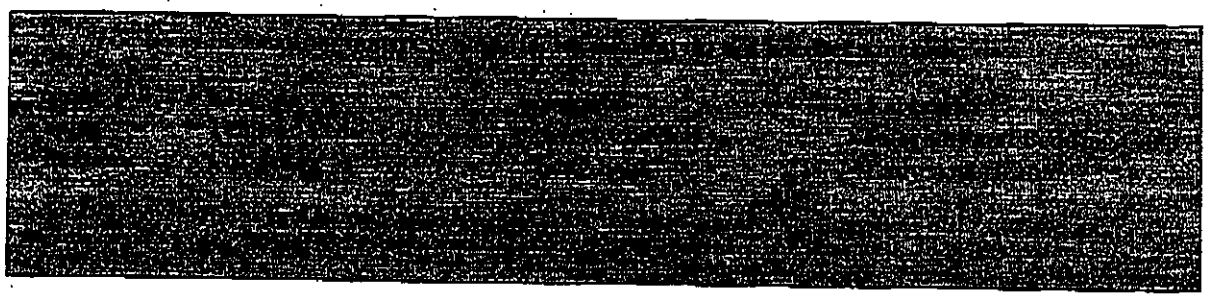
Affordable Alternatives:

Alternatives to Deca are not only available, but are cost effective. According to reports written by the states of Illinois, Maine, and Minnesota, there are affordable alternatives to Deca for consumer electronics, residential upholstered furniture, and mattresses.



In fact, many of these alternatives are already being used in the marketplace. For instance, Washington State estimates that roughly 57% of televisions and 95% of computer products do not contain Deca.[vii] And as noted above, mattress manufacturers have already shifted away from the use of Deca.



For all applications in which decaBDE currently is used, alternatives without decaBDE are available ... No applications were identified in which decaBDE is the only flame retardant used or in which decaBDE offers unique or exceptional properties. No application was identified in which the use of alternatives requires a compromise in fire safety.[viii]

– Maine Department of Environmental Protection & Maine Center for Disease Control and Prevention

(The information in this factsheet was compiled by Vermont PIRG)

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v The Lowell Center for Sustainable Production, University of Massachusetts Lowell, *Decabromodiphenylether: An Investigation of Non-Halogen Substitutes in Electronic Enclosure and Textile Applications* (p.35), April 2005.

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vii Washington State DEP. *Washington State Polybrominated Diphenyl Ether (PBDE) Chemical Action Plan: Final Plan* (p.65). January 2006.

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American Public Health Association

APHA

Policy Statement Database

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Preventing Human Exposure to Polybrominated diphenyl ether (PBDE) Flame Retardants to Protect Public Health

Policy Date: 11/9/2004
Policy Number: 2004-05

This policy, acknowledging that polybrominated diphenyl ether (PBDE) flame retardant compounds are widely used and chemically similar to PCBs, and noting more recent recognition that PBDEs are environmentally persistent, rapidly bioaccumulate in human tissue including breast milk and function as developmental neurotoxicants in animals, urges proactive steps to reduce human exposure citing especially APHA policy (#200011) encouraging "precautionary action to prevent potential harm to reproductive health, infants, and children, even if some cause and effect relationships have not been established with scientific certainty."1

More specifically, PBDEs are commonly used flame retardants found in foam products, textiles, electrical equipment, building materials and transportation. Penta-BDE, octa-BDE and deca-BDE are three of the most common commercial classes, with varying numbers of bromine atoms per molecule. Chemically, they look very much like PCBs, which were banned in 1976 due to their high toxicity and persistence and now conclusive evidence that they cause neurodevelopmental problems in children.2 Aside from their fire-retardant properties, PBDES are potent toxins that persist in the environment and bioaccumulate in the food chain and in human tissues.3 Like PCBs, PBDEs are lipophilic and have been found in fish, bird eggs and marine mammals as well as in human milk, fat and blood. While PCB levels in fish and breast milk have slowly declined since being banned, PBDE levels are increasing at an exponential rate. A 100-fold increase in total PBDEs was noted in Lake Ontario trout between 1978 and 1998.4 Body burdens of PBDEs in San Francisco Bay Harbor seals increased by a factor of 100 between 1989 and 1998.5 Total PBDE levels in human milk, blood and tissues have increased by a factor of 100 during the past 30 years, doubling about every five years.6 PBDE levels in U.S. women's breast milk are typically 10-100 times higher than levels in European women7,8 and are now approaching concentrations at which health effects have been observed in laboratory animals.9-17 Although human data on health effects are still lacking for PBDEs, ample data on toxicity are available from animal studies. These studies document that PBDEs are toxic to the brain, reproductive system and liver and disrupt thyroid function.18 Effects on thyroid function provide a plausible mechanism for PBDEs' possible adverse effects on child development. Human studies already document adverse effects on intelligence and psychomotor skills in children with disruptions in thyroid levels in the womb

through the second year of life.19-22 One study found that workers exposed to PBDEs experienced higher prevalence of hypothyroidism.23 Concurrent exposure to both PBDEs and PCBs, as from consuming some fatty fish, may present an increased risk since some researchers have found additive or synergistic effects between the two chemicals.24

PBDEs have been detected in household dust,25 food, and in air drawn from a warm TV,26 but the major human exposure pathways have yet to be identified. PBDEs with fewer bromines, such as penta, have the highest potential for bioaccumulation and are typically the most common classes found in humans, fish and other wildlife. Scientists, however, have increasingly been finding deca-BDEs and other higher brominated congeners in biota.27-29 Moreover, it is clear that deca can debrominate and convert to the more bioavailable forms in the environment and potentially during metabolism as well, making them a greater health risk than originally thought.

Global PBDE production totaled 150 million pounds in 1999, over 50 percent of which was used in the Americas.30 Deca-BDE is the most widely used class of BDE at 80 percent of worldwide production.31 Like PCBs, PBDEs flame retardants are now ubiquitous in the environment. The European Chemicals Bureau estimates that 75 percent of penta-BDE emissions will end up in soil and 24.9 percent in surface water and sediment.32 Measured levels of PBDEs in U.S. sewage sludge are 40 times that of European sludge.33

Eliminating most uses of PBDE flame retardants is possible, and a prudent step to protect public health. Concerns about rising levels of PBDEs in the breast milk of Swedish women led to efforts by industrial users in both Sweden and Germany to phase out the use of these chemicals. These actions have led to a decline in PBDE levels in breast milk of Swedish women.34 The European Union has enacted a ban on penta and octa-BDEs and is considering a ban on deca-BDEs as well. The states of California, Hawaii, New York, and Maine have enacted phase-outs of penta and octa-BDEs. Minnesota, Massachusetts, Michigan, Washington and Maryland have proposed similar state-level phase-outs.

Alternatives to the use of PBDE flame retardants are available and cost effective. Alternatives include: product redesign to eliminate the need for added chemicals; use of naturally flame retardant materials like wool and leather or plastics containing sulfur; and use of less toxic alternatives.35 The German Environmental Agency selected red phosphorus, ammonium polyphosphate and aluminum trihydroxide as alternatives with the least adverse environmental impact.36

Some computer and electronics manufacturers like Apple, Ericsson, IBM, Intel, Motorola, Panasonic, Phillips, and Sony are using alternatives. For example, Motorola now uses a halogen-free laminate that is cost effective, while meeting fire safety standards.37 Toshiba has replaced BFR-containing plastic casings in electronic parts with inherently flame-resistant polyphenylene sulfide. IKEA furniture, Crate and Barrel and Eddie Bauer are requesting PBDE-free polyurethane foam from their manufacturer Hickory Springs.

Although global manufacturers of these compounds continue to produce, as well as export, their products to the United States, one of the two U.S. manufacturers of PBDEs, Great Lakes Chemical, has already announced that they will phase out production of penta and octa-BDEs by 2005. The remaining U.S. manufacturer, Albemarle, continues to manufacture deca-BDE. By calling for a reasonable time frame for phase-out of deca-BDEs, impacts on businesses and workers could be minimized. Phasing out these compounds and substituting safer alternatives protects U.S.

manufacturers of PBDEs and companies that use them in their products from potential liability and helps maintain a European market for products requiring flame retardant properties. Since exposure to PBDEs may include an inhalation route of exposure, phasing out the manufacture of these chemicals should better protect the health of workers in industries dealing with PBDEs.

A PBDE phase-out may result in job loss for existing production workers. APHA policy statement 9304 acknowledges potential worker impacts and calls for assistance to workers who are displaced by technological changes.38 New research further supports the need for Work Environment Impact Assessments prior to chemical phase-outs/bans in order to prevent the shifting of risks to workers within the affected industry.39 A PBDE phase-out also provides economic opportunities for workers in industries which make safer alternatives to PBDE flame retardants.40

In light of the aforementioned emerging science on the inherent toxicity and persistence of PBDEs, evidence of adverse health effects on animals and the prevalence and rising levels in fish, biota and human breast milk, immediate action is needed to prevent further environmental contamination and to protect public health.

Therefore, The American Public Health Association hereby:

1. Resolves: That APHA urge state and federal governments to require the use of PBDE flame retardants be phased out in all products manufactured and sold in the United States by a date certain; and

2. Resolves: That APHA urge state and federal governments, in enacting such phase-outs, to consider policies that alleviate short-term economic impacts on the PBDE production workforce, and to also consider economic benefits to workers in industries making safer alternatives; and

3. Resolves: That APHA urge state and federal governments to provide financial incentives for development and use of alternative flame retardants or preferably changes in product design to increase fire resistance without use of chemicals, to assure fire safety, while protecting the public from toxic exposures; that alternative flame retardants be adequately tested for toxicity; and that environmental and health safety must be assured prior to use; and

4. Resolves: That APHA urge state and federal governments to require labeling of chemical flame retardants used in products; and

5. Resolves: That APHA urge state, federal and local governments to regulate the safe disposal of products containing brominated flame retardants and to prohibit land application of sewage sludge until testing can assure that such material does not contain measurable levels of PBDEs; and

6. Resolves: That APHA urge the U.S. Centers for Disease Control and Prevention to expand the national biomonitoring program to include PBDEs and to increase the number of people studied; and

7. Resolves: That APHA urge Congress to increase funding for research on PBDE flame retardants, including monitoring levels of PBDEs in fish, sediments, human milk, blood and tissue, and additional research into exposure routes and human health effects from these exposures.

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Celeste Hodge

From: Sen. Bettye Davis
Sent: Tuesday, March 16, 2010 7:45 PM
To: Celeste Hodge
Subject: FW: please support SB 295

Senator Bettye Davis
Senator
Alaska State Legislature
716 W. 4th Ave, Suite 400
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Senator_Bettye_Davis@legis.state.ak.us

From: Dee Hunt [mailto:dhunt@gci.net]
Sent: Monday, March 15, 2010 5:42 PM
To: Sen. Bettye Davis
Subject: please support SB 295

Dear Senator Davis:

Please protect public health and the environment by phasing out PBDEs, which are added to plastics, foam products, and textiles to inhibit burning. Safer and economically viable alternatives are available and are already being used by some manufacturers of computers and other products.

PBDEs persist in the environment and bioaccumulate in fish, animals and humans.

I am asking you to support SB 295, which would phase out these toxic flame retardants.

Sincerely,
Dee Hunt

Dee Hunt
25145 Schaff Drive
Chugiak, AK 99567
phone and fax: 907-688-1568
email: dhunt@gci.net

Celeste Hodge

From: Sen. Bettye Davis
Sent: Tuesday, March 16, 2010 7:45 PM
To: Celeste Hodge
Subject: FW: SB295

Senator Bettye Davis
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-----Original Message-----
From: Bob Mitchell [mailto:mitchell@ptialaska.net]
Sent: Monday, March 15, 2010 4:15 PM
To: Sen. Bettye Davis; Sen. Joe Paskvan; Sen. Fred Dyson; Sen. Johnny Ellis; Sen. Joe Thomas; Sen. Bill Wielechowski
Subject: SB295

Please vote to pass SB295, which is legislation that would protect public health and the environment by phasing out toxic flame retardants.
SB 295 would require the phase out of polybrominated diphenyl ethers (PBDEs). PBDEs are toxic flame retardant chemicals added to plastics, foam products, and textiles to make them difficult to burn. The EPA is concerned that certain PBDEs are persistent, bioaccumulative, and toxic to both humans and the environment. The American Public Health Association and International Association of Fire Fighters have urged the phase out of PBDEs. Safer and economically viable alternatives are available and are already being used by some manufacturers of computers and other products.

Thank you for your consideration.

And special thanks to Senator Wielechowski for introducing the bill.

Bob Mitchell
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