



The Industry Voice for Workplace Solutions

news release

## **BIFMA Pursuing Environmentally Preferable Flame Retardants**

According to the National Fire Protection Association, 3,380 people died in the United States in 2002 as a result of fire-related incidents and thousands more suffered severe injuries. Estimates are that 79 percent of these deaths occurred in residential fires. For many years, industry and regulators have struggled to design national fire standards for residential furniture that would balance the benefits of enhanced fire safety with the increased costs and environmental uncertainty associated with the manufacture of more flame-retardant furniture. The Consumer Product Safety Commission (CPSC) is now moving on a fast track to develop national fire safety standards. The CPSC is developing a proposed rule with input from a variety of stakeholders.

The issue of fire safety has recently become more complicated due to a popular flame retardant, pentabromodiphenylether (pentaBDE), being discontinued. This product has come under scrutiny after increased levels have been found in the environment. The manufacturer is voluntarily phasing-out the product and manufacture will cease by the end of 2004. The challenge for the stakeholders is to optimize furniture flame retardancy and limit impacts to the environment. No one wants to see fires claim more lives and create more property damage but at the same time the stakeholders want to be sure that the products they use to prevent these fires do not harm the environment.

BIFMA has joined a broad stakeholder partnership which has taken up this challenge. Fire safety is critical – lives and property must be protected -- but fire safety must be achieved in a way that does not harm public health and the environment. To achieve this goal, the partnership is working to understand the human health and environmental profiles of alternative chemical flame retardants. This information will help industry make choices about the types of flame retardants it uses.

The partnership will also set a baseline for the level of toxicological information that should be developed for flame retardants that will be used for fire safety in furniture.

Numerous stakeholders including the furniture manufacturers, the flame retardant industry, environmentally conscious science groups and fire safety organizations have all joined the U.S. Environmental Protection Agency's (EPA) Design for the Environment (DfE) program. The program is taking on the complex role of consolidating all of the available information on flame retardant chemicals, such as European Union risk assessments and independent studies, and will present its findings by the end of 2004.

## BACKGROUND

### WHAT IS THE FURNITURE FLAME RETARDANCY PARTNERSHIP PROJECT?

This project is a joint effort between the U.S. EPA Design for the Environment (DfE) Program, and the furniture industry to identify environmentally safe solutions for meeting current and future furniture fire safety requirements. Planned national fire safety standards will lead to an increased use of flame retardants. Recent environmental and human health concerns about one heavily-used flame retardant, pentaBDE, have led to that product being voluntarily phased out of production by the end of 2004 in the United States. The EPA's DfE Program on environmentally preferable approaches for achieving furniture fire safety standards was started as a result of the increased need and concern surrounding flame retardants and a desire to ensure that alternatives to penta BDE that gain a substantial market share are environmentally preferable. This multi-stakeholder project includes the U.S. EPA and Consumer Product Safety Commission (CPSC), furniture manufacturers (American Furniture Manufacturers Association (AFMA) & the Business and Institutional Furniture Manufacturers Association (BIFMA)), the flame retardant industry (American Fire Safety Council (AFSC)) and the non-profit environmental group GreenBlue. This project will in the short term evaluate the current replacements for pentaBDE and determine their suitability for use. In the longer term, the project will look at the design criteria for flame retardant products and explore alternative technologies striving to bring environmentally sound solutions to fire safety.

### WHAT CHEMICALS ARE CAUSING THE CONCERN?

Polybrominated diphenyl ethers (PBDEs) are a category of several chemicals that include commercial mixtures of three brominated organic chemicals that are commonly used as flame retardants: pentabromodiphenyl ether, octabromodiphenyl ether, and decabromodiphenyl ether. These chemicals are major components of commercial formulations often used as fire retardants in the foam of residential furniture (pentaBDE); plastics for TV cabinets, consumer electronics, wire insulation, and backcoatings for draperies and upholstery (decaBDE); and plastics for personal computers and small appliances (octaBDE). The benefit of using these chemicals is their ability to prevent or delay ignition and slow the rate of fire growth, and ultimately increase escape time in the event of a fire involving the above consumer products. These chemicals save lives and property; however there have been unintended consequences. Environmental monitoring programs have detected PBDEs (primarily tetra- to hexaBDEs) in human breast milk, fish, aquatic birds, and household dust. The limited toxicity test data that is currently available indicate the potential for adverse effects to humans and environmental organisms, especially for lower brominated mixtures, but existing hazard and exposure information on all the PBDEs is incomplete. Nonetheless, the uncertainty regarding the potential hazards of these chemicals has caused concern and heightened public awareness.

### WHICH CHEMICALS ARE DRIVING THE ISSUE IN THE FURNITURE INDUSTRY?

Pentabromodiphenyl ether (pentaBDE) has been used as a primary flame retardant for foam in residential furniture and mattresses for decades. Although pentaBDE saves lives by preventing fires, there is growing concern over environmental impacts upon the use and disposal of pentaBDE-based foam. Recognizing this concern, the sole US manufacturer of pentaBDE is phasing out its production by December 31, 2004 (a concurrent phase-out of octaBDE is also planned).

Also, pending a potential Consumer Product Safety Commission (CPSC) Rulemaking and ratification of the American Home Fire Safety Act (see below) greater volumes of chemical flame retardants are expected to be used in the backcoating of fabrics used in residential furniture. A potential chemical for this use is decaBDE.

In addition to the voluntary phase-out of pentaBDE, legislation has been passed to restrict its use in Hawaii and California (in 2006 and 2008, respectively). Other proposed regulations in various states may restrict or limit the use of decaBDE.

## WHAT ARE THE PROJECT GOALS?

The partners in this project intend to provide up-to-date and objective information to facilitate manufacturers' decision making as they choose flame retardant chemicals, or non-chemical alternatives. The Partnership recognizes that no one alternative is expected to provide an ideal solution to all of these issues, but the project members hope to identify the strengths of each alternative, such that individual companies and consumers can make educated decisions that will best suit their needs.

The short-term goal of the Partnership is to provide information that will help the furniture industry factor environmental considerations into their decision-making as they choose replacements for pentaBDE at the end of the calendar year.

The longer-term goal of the Partnership is to work with a broad base of stakeholders to set a baseline for product stewardship for flame retardant chemicals used in furniture foam. The partnership will set expectations for the level of toxicological information that should be developed for formulations that will compete in this market. The partnership will also set expectations for the level of toxicological information that should be developed for formulations that develop a substantial market share. An additional partnership activity will be to issue a DfE innovation challenge that will reward chemical manufacturers, formulators, and other manufacturers who develop environmentally preferable methods for meeting fire safety standards.

The Partnership will add flame retardants for fabric to the project after furniture flame retardancy standards are proposed.

## HOW CAN YOU GET MORE INFORMATION ON THE PROJECT AND EPA'S DESIGN FOR THE ENVIRONMENT PROGRAM?

U.S. EPA defines the concept of designing for the Environment as incorporating environmental considerations into the design and redesign of products and processes. Design for the Environment (DfE) projects commonly focus on producing products that use non-toxic, or lower toxicity materials; select materials that are produced with the least environmental impacts; and produce products that are easily and safely recycled into high quality products at the end of their first useful life. EPA's DfE Program is a voluntary partnership program that works directly with industry to integrate health and environmental consideration into business decisions. More information on DfE, the Furniture Flame Retardant Project, and various partnership programs can be found at <http://www.epa.gov/dfe>.

## WHAT IS THE STATUS OF THE AMERICAN HOME FIRE SAFETY ACT (THE "HOLLINGS BILL")?

The Senate held a full Commerce Committee hearing on the American Home Fire Safety Act (AHFSA) bill on July 14<sup>th</sup>, 2004. Senator Hollings of South Carolina is the bill's sponsor and Senator Smith of Oregon Chaired the Committee. The bill calls for national fire safety standards for certain residential items such as furniture and mattresses. Presently, only California has standards in place to ensure these items meet established fire safety tests (although many companies elect to voluntarily manufacture all products to meet the California standards regardless of the point of sale). The bill has generated substantial interest from the fire safety community due to the substantial benefits a national standard would have in saving lives and property. Approximately 3380 people die in fire-related incidents in the U.S. each year and 79% of these deaths occur from residential fires.

#### WHAT ROLE IS THE CONSUMER PRODUCT SAFETY COMMISSION PLAYING?

The main witness to testify at the Commerce Committee hearing was Hal Stratton, Chairman of the Consumer Product Safety Commission (CPSC). CPSC is responsible for developing these standards and has had a long-term program to evaluate alternative standards. Since taking office in 2002, Chairman Stratton has pushed to put forth its proposals. At the hearing, he committed that CPSC would provide draft standards for furniture and mattresses by November 1, 2004. One of the reasons for the delay in issuing national standards has been trying to reconcile the numerous interests of the stakeholders. Earlier this year, a coalition of stakeholders including BIFMA International (also known as the Business and Institutional Furniture Manufacturers Association), the American Furniture Manufacturers Association (AFMA), the National Textile Association (NTA)/Fabric Coalition, the National Association of State Fire Marshals (NASFM), and the Underwriter's Laboratory (UL) came together to collectively review flammability testing methods and forged a consensus opinion on recommendations for the CPSC to consider in their rulemaking process. Other stakeholders including the American Fire Safety Council (AFSC), the Polyurethane Foam Association (PFA), and the Alliance for Polyurethanes Industry (API) generally support this industry recommendation.

#### WHERE CAN YOU GET MORE INFORMATION ON PBDEs?

Considerable information on PBDEs has been developed in the past few years. Most notably, the Voluntary Children's Chemical Evaluation Program (VCCEP) is a collaborative EPA and industry effort that was developed with the goal of better understanding potential health risks to children associated with exposures to chemicals, including PBDEs. Under VCCEP, the three PBDEs of primary concern (penta, octa, and deca) have been sponsored by their manufacturers. These companies developed assessments that characterize the hazard, exposure and potential risks associated with each chemical. The VCCEP assessments also identify any gaps in hazard and exposure information and monitoring data that need to be filled to conduct a complete risk assessment. The sponsors received feedback on these assessments through public Peer Consultation meetings by a group of scientific experts; the meetings were held in April and June of 2003. The decaBDE meeting report was released September 30, 2003 and the reports on pentaBDE and octaBDE were released January 22, 2004. EPA will independently review the meeting reports and sponsors' assessments and release its review in the coming months. The reports, more information on VCCEP, and links to other information pertaining to these chemicals can be found at <http://www.epa.gov/chemrtk/vccep>.