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**Testimony by Polyurethane Foam Association
California Assembly Committee on Environmental Safety and Toxic Materials
Regarding Furniture Flammability Standards
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This testimony is presented by the Polyurethane Foam Association (PFA), a United States trade association. PFA members comprise manufacturers of flexible polyurethane foam (FPF) and suppliers of chemical raw materials and supporting technologies to the FPF industry. PFA manufacturing members are predominately small businesses producing foam primarily for use in cushioning in upholstered furniture and mattresses. FPF manufacturers produce more than 1 billion pounds of product each year in the United States and employ thousands of Californians in foam production and related foam fabrication facilities.

PFA manufacturing members produce foam and market “comfort.” In the case of foam products used in furniture construction, comfort is both a physical characteristic and a state of mind. The safety of workers, the environmental quality of communities where PFA manufacturing sites are located, and the welfare of California consumers are top priorities. Recently, some questions have been raised about certain flame retardant additives used to manufacture foam to comply with the small open flame test portion of California Technical Bulletin 117 (TB 117) by Governor Brown’s office, scientists and news media in California, the US, and around the world.

TB 117 currently contains various flammability testing requirements for different upholstered furniture filling materials. One of the test requirements for foam, Section A. Part 1, specifies a level of small open flame performance for foam test specimens. This test procedure addresses a single upholstered furniture component using laboratory procedures that are not representative of actual fire conditions. In an actual fire, a number of components or the entire furniture item could become involved in combustion. For this reason, since its 1975 conception, PFA has been critical of TB 117 as a method to determine the flammability of upholstered residential furniture.

PFA advocates a national, performance-based flammability standard for upholstered furniture. To be effective, an upholstered furniture flammability standard must be:

- 1) Appropriate to the risk of ignition;
- 2) Based on the composite performance of the finished piece including all items of assembly;
- 3) Free from bias toward any component;
- 4) Reproducible and technically and economically feasible; and
- 5) Safe for workers, the public and the environment.

TB 117 Compliance technologies must also be compatible with available foam production methods without limiting or restricting the types and comfort properties of FPF being manufactured.

PFA is not aware of a small open flame test protocol that will meet our organization's criteria for a test method to determine the flammability characteristics of upholstered furniture when exposed to small open flame.

The great majority of household fires involving upholstered furniture as the item of first ignition involve a smoldering ignition source such as a burning cigarette. Broad use of smoke detectors and the national adoption of reduced ignition propensity ("fire safe") cigarettes may help to reduce the number of smolder-ignition-related fires. However, statistics show that smoldering ignition sources still remain, by far, the most frequent cause of household fires involving furniture. To adequately address the most common risks of household fire, a comprehensive smolder testing protocol is the most appropriate solution for California and the remainder of the country. While TB 117, Section D, Part 1 provides protocol for a cigarette smolder testing resilient cellular (foam) materials, it may not be as comprehensive as needed to become a "stand-alone" flammability standard in California.

Better options for a stand-alone smolder test are available through the UFAC voluntary fabric qualification and smolder test, or NFPA 260 or ASTM 1353 that are similar qualification and testing procedures. These performance approaches subject fabrics to a higher degree of qualification testing and specify general construction methods to be used with fabrics that exhibit greater propensity for smolder ignition.

A higher bar is represented by the smolder test with fabric qualification protocol proposed by the US Consumer Product Safety Commission (CPSC) published in the March 4, 2008 edition of the Federal Register. The CPSC proposal provides different methods for compliance that may improve fire safety and also encourage US manufacturing innovation. If the CPSC smolder qualification test for upholstered furniture is adopted, the most likely path for compliance will be use of qualified, smolder resistant fabrics. However, the CPSC proposal also would allow use of qualified ignition barriers. Workable barrier technologies for use with all types of residential furniture do not now exist.

For broad use in residential upholstered furniture, barrier technologies present a number of challenges. There are many thousands of fabrics in commerce today, including fabrics supplied by designers for custom upholstery, for use with residential upholstered items. With so many different fabrics, furniture designs and frame configurations, and great variability in combustion properties, to be effective in resisting ignition, many different types of new barrier materials would be needed to accommodate differing combustion characteristics and differing “hands” (feels) and styling attributes that exist in the upholstered furniture industry. Barrier products for general use with upholstered furniture are not available and would need to be created.

Currently available barrier fabrics and batting technologies are not compatible with the majority of residential upholstered products. Existing barrier products are either cost-prohibitive, inappropriate in terms of stiffness or “hand”, or, in the case of ignition-resistant high-loft batting materials as often used with mattress products, the high-loft batting would wear poorly in residential seating applications. Application of any existing barrier technology for residential upholstered furniture also would require extensive additional labor for pattern cutting, cut-and-sew pre-assembly, and final upholstery. Essentially, the application of a barrier fabric would almost double the assembly labor required to currently produce a finished piece of upholstered furniture.

Another consideration to obtain improved combustion performance might be the application of combustion-resistant backcoating to fabrics. Again, there are economic challenges including an inability to simultaneously cut multiple fabric patterns; as well as aesthetic, stiffness and “hand” issues, and the potential to limit available fabric selections. In addition, an effective backcoating generally involves the addition of a flame retardant chemical component, and that

aspect could result in more questions and concerns among California consumers and the scientific community.

Because of recent questions about the viability of available combustion modification technologies that could be used to improve the open flame performance of upholstered furniture, and a lack of data that support a need for an open flame performance standard for upholstered furniture, PFA recommends that California temporarily suspend the open flame testing requirements specified in Section A. Part 1 of TB 117 until questions about these FR additives can be resolved, or until TB 117 can be updated to better address the risk of smolder ignition.

In conclusion, PFA supports the adoption of a performance-based national flammability standard with an emphasis on improving smolder ignition resistance. Our association also supports development of a choice of paths for compliance that would allow use of an approved barrier technology. Although feasible barrier technologies do not now exist, providing such an option might encourage development of new barrier products that might be applicable for use with residential upholstered furniture construction. Ideally, there would also be a method to qualify new or existing FR additive components that may lead to an updated small open flame performance standard. The option to qualify certain FR chemicals for use in filling materials or fabrics might also encourage innovation.

PFA supports the efforts of the Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation (BEARHFTI) to resolve questions related to TB 117 and to work toward updating the requirements for upholstered furniture flammability in the State of California. We look forward to providing whatever expertise PFA members can lend toward such activities.

Sincerely,



Robert Luedeka
Executive Director