



Mr. McGarry discussed the hazard to the public and to firefighters of large fires, and asked the furniture industry's help in finding ways to reduce these fires; he also announced his intention to petition CPSC and FTC to require labeling for polyurethane foam filling materials in furniture. Ms. Adair discussed recent research sponsored by her organization, the American Textile Manufacturers Association (ATMI), and introduced Drs. Stricklen and Reimann. They discussed their work on testing of FR backcoated fabrics. Mr. Talley spoke about his work on durability testing and cigarette ignitability of furniture fabrics.

Mr. de Turck provided a European regulatory activities update, including a recent French standard covering cigarette and small open flame ignition. Mr. Robinson discussed the legal aspects of flammability issues, including theories of liability and how manufacturers might minimize their liability risks. Mr. Schmidt described his laboratory's work on California TB-133 testing and other related issues.

Mr. Ziolkowski gave a brief summary of the latest fire statistics, and reiterated AFMA's commitment to avoiding mandatory rules affecting the upholstered furniture industry. He highlighted the achievements of the UFAC voluntary program, and recommended that CPSC consider the potential impact of any regulatory actions on UFAC's voluntary guidelines.

A panel discussion ensued in which all of the speakers fielded questions and provided comments on the various presentations. Copies of all the speakers' presentation slides are available from Dale Ray, CPSC Project Manager, Directorate for Economics, 301-504-0962.

# CPSC Activities on Upholstered Furniture



CPSC Flammability Workshop  
March 9, 1999

## Major Activities

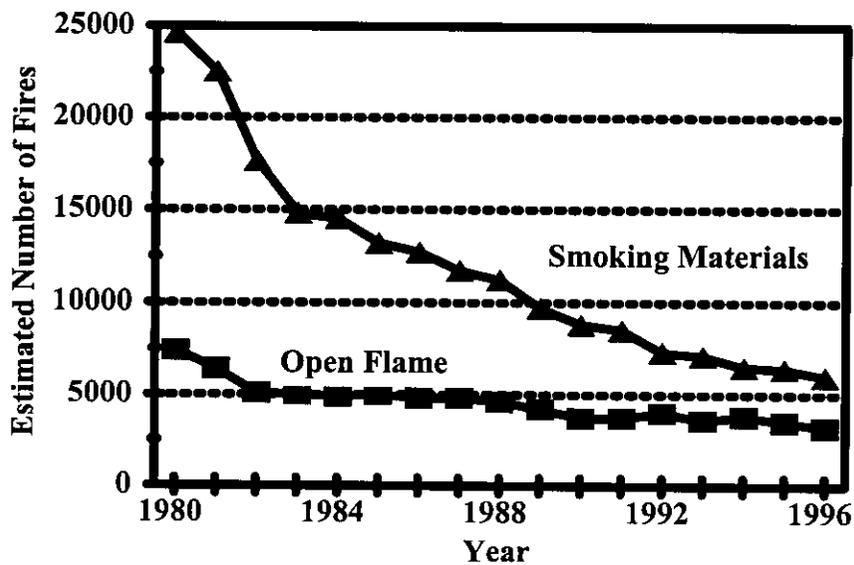
- **Flammability Standard Development**
  - ANPR
  - Small Open Flame Ignition
- **Flame Retardant Chemical Evaluation**
  - 1998 Public Hearing
  - 1999 Appropriation

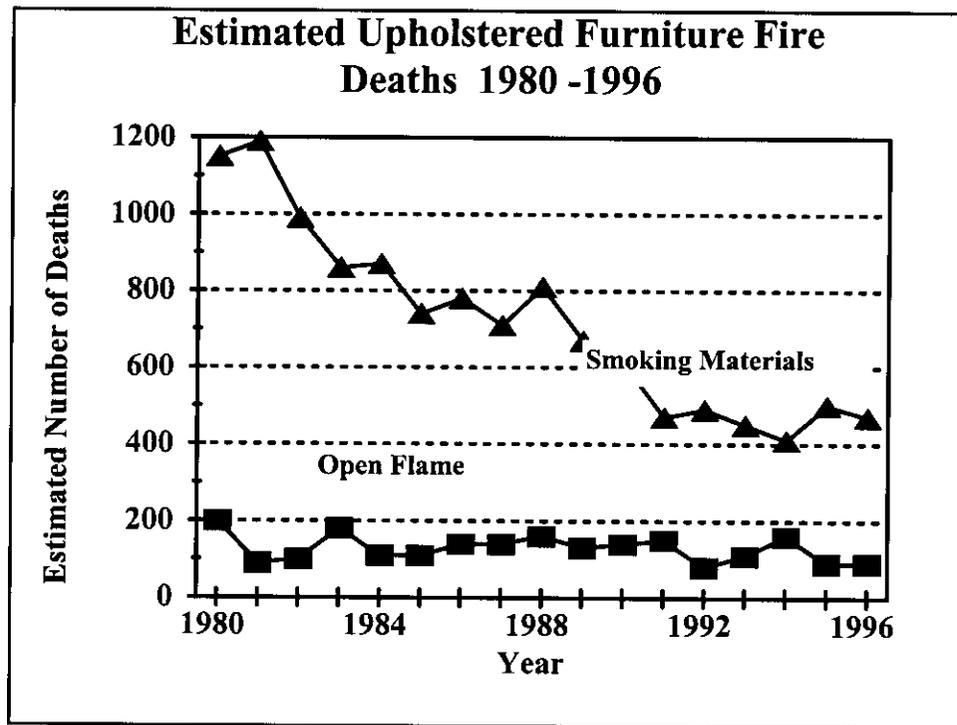
## 1996 National Fire Loss Estimates for Upholstered Furniture

IGNITION SOURCE	FIRES	DEATHS	INJURIES	PROPERTY LOSS \$MM
ALL SOURCES	13,100	650	1,640	\$ 253
SMOKING MATERIALS	6,000	470	940	\$ 97
SMALL OPEN FLAMES	2,600	60	380	\$ 51
OTHER / UNKNOWN	4,500	120	320	\$ 105

**Total Societal Cost = \$3.75 billion**

### Estimated Upholstered Furniture Fires 1980 -1996





## Previous CPSC Lab Studies

- Full & bench scale small open flame testing
- Fabric, foam, barrier & dust cover evaluations
- Cigarette ignition testing

## **Conclusions**

- **Upholstery fabric is the primary determinant of ignition performance; FR treatments observed to be effective**
- **FR foams/polyester batting/most barriers have little effect on mockup behavior**
- **Substantial majority of current furniture is cigarette ignition resistant; no observed adverse effect with FR treatments, likely beneficial effect for cigarette-prone fabrics**

## **CPSC Staff Draft Small Open Flame Standard**

- **2 Tests: Seating Area, Dust Cover**
- **Fabric / Foam Mockup  
(optional: actual materials)**
- **Fabric conditioning**
- **20 sec. Small flame exposure**
- **No combustion > 2 minutes;  
no flaming to sample edge**

## **Current CPSC Lab Studies**

- **Flammability Testing**
  - **FR Fabrics, U.K. Chairs**
  - **Test Apparatus lending program**
- **Durability of FR treatments**
- **Cigarette Ignition**
- **Factors Affecting Open Flame Ignition Behavior**

## **Factors Affecting Open Flame Ignition**

- **Physical Characteristics**
- **Soil, spilled beverages**
- **Filling materials, barriers**
- **Seat / back geometry**
- **Cleaning agents / procedures**
- **Fabric finishes**

## **Textile Industry Technical Activities**

- **Flammability Testing**
- **Industry Survey / Economic Analysis**
- **Met with CPSC Sept. 18, 1998 & Feb. 9, 1999**

## **ATMI / AFMA Tests**

- **CPSC draft protocol & apparatus**
- **Fabrics with & without FR backcoatings**
- **“Pass / fail” testing**
- **Test method issues**
- **Fabric characteristic variability**

## **CPSC Plans -- Response to ATMI / AFMA**

- **More lab testing to investigate test method issues (gas flow, flame apparatus)**
- **Round Robin to supplement 1996 interlab study**
- **Ongoing enhancements to draft CPSC standard**

## **ASTM E5.15 Voluntary Work Group**

- **Reviewed Existing Test Methods**
- **Members Co-sponsored flammability tests of FR fabrics**
- **No progress toward draft ASTM Standard, pending outcome of ongoing FR chemical study**

## **FR Chemicals**

- **Fabric treatments likely**
- **Little data on potential chronic health effects, potential exposure**
- **CPSC deferred action 1/98**
- **Public Hearing 5/98**
- **CPSC Toxicity Reviews**

## **Chemical Hazard Issues**

- **Toxicity, Exposure, Bioavailability**
- **CPSC Authority: FHSA**
- **EPA Authority: TSCA**

## **CPSC Public Hearing**

May 5-6, 1998

- **Purpose:** Gather scientific data
- **Witnesses:** Chemical industry, furniture industry, government, fire safety & public interest groups
- **Issues:** Health effects, consumer exposure, environmental concerns, new & existing toxicity studies, data needs

## **UFAC Public Hearing Testimony & Comments**

- **Toxicity, worker/consumer exposure and bioavailability data**
- **Potential environmental effects of Brominated FRs**
- **Backcoating durability**
- **FR fabric application a “new use”;  
CPSC should proceed with caution**

## **CPSC Toxicity Reviews**

- **16 Fabric FR candidate compounds**
  - Some currently used in U.K.
  - None currently used in U.S. residential
- **Toxicity data from:**
  - Scientific literature
  - Post-hearing submissions
  - Chemical industry studies
  - Data submitted to EPA

## **CPSC Chemistry Lab Activities on FR Chemicals**

### **Previous:**

- **Extraction testing**
- **Chemical identification**

### **Planned:**

- **Dermal penetration**
- **Effects of cleaning agents/procedures**
- **Mouthing study**

## **CPSC FY 1999 Appropriation**

- **NAS Study of FR Chemicals**
  - 12 months, \$500,000
- **GAO Review of CPSC Process**
  - FRs, cost-benefit, fire hazard data

## **Looking Ahead**

- **NAS Study report**
- **CPSC Lab studies**
- **ASTM Voluntary Activity**
- **Preliminary regulatory analysis**
- **Consider Alternatives**

**For Further Information:**

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