CPSC MEETING LOG
UPHOLSTERED FURNITURE

Meeting Between: CPSC staff and representatives of the Alliance for the Polyurethanes Industry at the API Polyurethanes 2000 Conference

Date of Meeting: October 9, 2000

Site of Meeting: Westin Hotel Copley Place, Boston, MA

Log Entry By: Dale R. Ray, CPSC Project Manager

Session Participants:
Richard Skorpenske, Bayer Corp. (organizer)
Fran Lichtenberg, API
Dick Mericle, BASF Corp. (co-moderator)
Kurt Reimann, BASF Corp. (co-moderator)
Larry Bradford, Akzo-Nobel, Inc.
Dale Ray, CPSC
Donald Bliss, Nat'l. Ass'n. of State Fire Marshals
Joe Ziolkowski, Upholstered Furniture Action Council
(plus about 200 other attendees at this session)

Summary:

The API annual polyurethanes conference includes a number of technical sessions on matters of interest to urethane manufacturers and their suppliers and customers. The session on "Current Issues in Furnishings Flammability" focusing on furniture and mattress flammability was one of these. The potential outcomes of regulatory activities by CPSC and others are of great importance to the industry; the session participants provided information on the status and potential impact of these activities. API recently issued a position statement supporting national standards for upholstered furniture and mattresses, and outlining various suggested criteria for consideration in such standards.

Dr. Reimann introduced the speakers on the furnishings flammability panel. Mr. Bradford described generally how flame retardant chemicals work, and how they are applied to textiles in order to meet various existing standards and the CPSC staff's draft small open flame standard for upholstered furniture.

Mr. Ray gave an update on CPSC's activities regarding mattresses and upholstered furniture, including relevant fire loss data, interlaboratory and other technical studies, and flame retardant chemical research at CPSC and at the National Academy of Sciences A copy of Mr. Ray's presentation slides is attached. . Mr. Ray also discussed the recent voluntary effort, by an industry coalition including API and others, to develop a possible alternative small open flame standard and test method. He noted that upholstered furniture fires were the leading cause of residential fire deaths in the U.S., and that while the CPSC staff

welcomes any new API or other voluntary initiative, it is continuing its own independent effort to develop a small open flame standard to protect consumers.

Mr. John McCormack of the California Bureau of Home Furnishings & Thermal Insulation was scheduled to give a talk on the status of California's project to review Technical Bulletin 117, the basic mandatory standard for furniture sold in that state; however, he was unable to attend the conference. Mr. Skorpenske and Ms. Lichtenberg presented a summary of API's correspondence with the California BHF, including slides prepared by Mr. McCormack. API recommended that BHF keep a small scale test in TB-117, that it consider the role of both fabrics and filling materials, that it examine escape time as a safety criterion, and that it conduct an interlaboratory study to establish the feasibility of any new TB-117 test method.

Mr. Bliss expressed NASFM's support for the API / industry coalition effort to develop an alternative standard. He stated that NASFM and API had reached a "no surprises" agreement in this matter. Mr. Bliss characterized the CPSC draft standard as inadequate, principally because it does not require the use of flame retardant filling materials. He expressed his willingness to work closely with the industry coalition to develop a test method that could be adopted in either a voluntary or mandatory standard.

Mr. Ziolkowski described the UFAC voluntary program, and presented information about reductions in deaths and injuries since the UFAC program was introduced in 1978. He is leading the industry coalition effort to develop an alternative to the draft CPSC standard; he discussed various technical aspects of the possible test method. He stated that the coalition would strive for an approach that would minimize limitations on fabric selection, and may rely more on FR fillings or barriers. The coalition's test method is currently under development, and may be shared with CPSC by about the end of calendar year 2000.

The panelists participated in a general question & answer period after the presentations were completed. Generally, these questions were to request additional details about the nature of the CPSC and coalition standards, and the expected timing of CPSC's actions. Mr. Ray stated his intent to make publicly available an upcoming staff briefing, with recommendations for Commission action, as soon as possible; he noted that this package would be posted on CPSC's web site when completed. Mr. Mericle made some remarks about the cooperative effort of the coalition to close the session.

Attachment

CPSC Activities on Upholstered Furniture

API Polyurethanes Conference
October 9, 2000

CPSC's Primary Mission:

To protect the public from unreasonable risks of death and injury associated with consumer products

1997 Residential Fire Losses

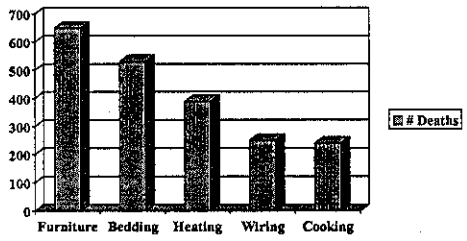
(excluding incendiary & suspicious fires)

- 379,900 unintentional fires
- 3,080 deaths -- 800 children < age 15, including 500 children < age 5
- 16,860 injuries
- $4.2 billion property damage

- Total societal costs > $22 billion
- Total losses declining but still high

Fire Deaths & Consumer Products, 1997

Source: CPSC/NEIRS/NFPA
(excludes incendiary/suspicious fires)



Mattresses & Bedding

- Mandatory CPSC cigarette ignition standard in effect since 1974
- 8,200 open flame fires, 120 deaths in 1997; no significant decline since 1980
- Fire investigations: bedclothes, childplay often involved, frequent child victims

Mattresses & Bedding: Major Activities

- CPSC Chairman's Roundtable - 1998
- Public Education - labeling, research
- Open flame test method / possible std.
  - SPSC / NIST program
  - Phase 1: characterize fires; test products
  - Phase 2: assess performance; small scale test
- CCFSM petitions: TB-129, BS 5852, labels

Upholstered Furniture

- 1978 UFAC voluntary guidelines
- 1993 NASFM petition
- 1994 ANPR re: risk of small open flame ignited furniture fires
- CPSC staff draft standard & test method development
- Cigarette ignitability evaluation

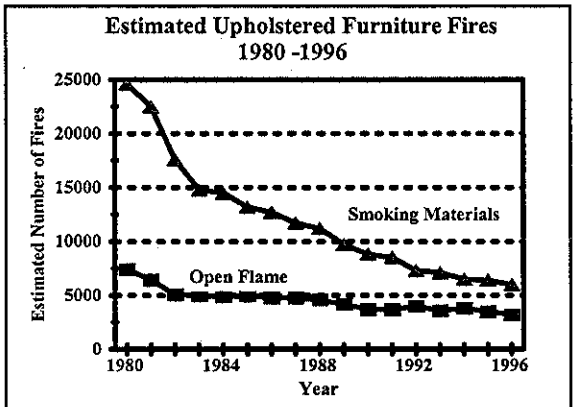
Upholstered Furniture:
Flammability Standard Development Activities

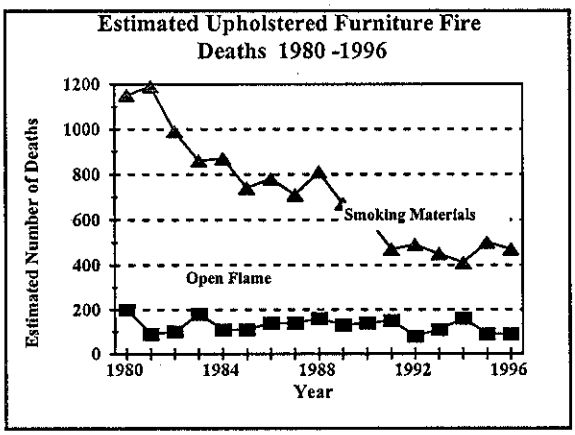
- Fire loss data review & analysis
- Lab testing, draft std. & test method
- Interlab study
- Voluntary activity monitoring
- Flame retardant chemical evaluation

1997 National Fire Loss Estimates for Upholstered Furniture
(excludes incendiary & suspicious fires)

IGNITION SOURCE	FIRES	DEATHS	INJURIES	PROPERTY LOSS $MM
ALL SOURCES	11,500	650	1,530	$ 226
SMOKING MATERIALS	5,700	460	830	$ 104
OPEN FLAMES	2,600	80	500	$ 64
OTHER	7,700	150	570	$ 133

Total Societal Cost = $3.75 billion





CPSC Lab Studies '95-97

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

Lab 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

- Similar to BS 5852 Match Resistance
- 2 tests: seating area, dust cover
- Fabric / non-FR foam mockup (optional: actual materials)
- Fabric conditioning
- 20 sec. Exposure to 35mm flame
- No combustion > 2 minutes; no progression to sample edge

CPSC Lab Studies '98-00

- Flammability of FR Fabrics, UK Chairs
- Durability of FR fabrics
- Cigarette ignitability of FR fabrics
- Factors affecting open flame ignition:
  - Physical characteristics
  - Fabric finishes
  - Soiling / cleaning

CPSC Interlab Study

- Consistency & precision (repeatability, reproducibility) of CPSC method
- 9 lab Round Robin 1999-2000
- 1,350 seating area + 180 dust cover tests
- Statistical analysis per ASTM E691-92 guidelines, for burn time + pass/fail data
- Acceptable within-lab & between-lab consistency, repeatability & reproducibility; method suitable for use in pass/fail standard

Voluntary Activities

- ASTM E.05-15 work group established 1996, reviewed existing test methods
- Members co-sponsored flammability tests of FR fabrics
- Industry coalition developing draft test method

Other Activities

- Cigarette ignition evaluation
- California TB-117 review project
- NASFM polyurethane foam petition
  - Filed 3/99 with CPSC & FTC
  - Flammability labels on finished products
  - Issues: effectiveness; relation to possible small open flame standard

FR Chemicals

- Fabric treatments likely
- Lack of data on potential chronic health effects, potential exposure
- CPSC deferred action 1/98
- Public Hearing 5/98
- CPSC evaluation-16 identified FR's; (some used in UK, none in US residential)

Fabric FR Candidates

- Decabromodiphenyl Oxide
- Hexabromocyclododecane
- Phosphonic Acid
- Tetrakis Hydroxymethyl Hydronium Salts
- Zinc Borate
- Alumina Trihydrate
- Magnesium Hydroxide
- Ammonium Polyphosphates
- Antimony Trioxide
- Tris (2-chloropropyl) phosphate
- Tris (1,3-dichloropropyl-2) phosphate
- Calcium & Zinc Molybdates
- Antimonates
- Chlorinated Paraffins
- Aromatic Phosphate Plasticizers
- Organic Phosphonates

FR Chemical Hazard Issues

- CPSC evaluation guided by FHSA
- "Hazardous substances"
  - Must be toxic
  - Must pose potential substantial illness or injury from reasonably foreseeable use
- Toxicity, exposure, bioavailability

FR Chemical Evaluation

- CPSC toxicity reviews
  - Scientific literature, post-hearing submissions, chemical industry studies
- CPSC lab testing of FR fabrics:
  - Chemical ID, extraction/migration (including durability / cleaning effects), dermal absorption
- CPSC risk assessment
- EPA: possible SNUR
- NIOSH: Health Hazard Evaluation study

NAS Study

- CPSC 1999 appropriation
- Independent study of FR chemical risks
- Final report to CPSC & Congress 5/00
- Conclusions:
  - 8 minimal risk / no consumer health hazard
  - 8 need further exposure study
  - no recommendation against use of any FRs

"Minimal Risk" FRs

- Decabromodiphenyl Oxide
- Hexabromocyclododecane
- Phosphonic Acid
- Tetrakis Hydroxymethyl Hydronium Salts
- Zinc Borate
- Alumina Trihydrate
- Magnesium Hydroxide
- Ammonium Polyphosphates

"Further Exposure Study" FRs

- Antimony Trioxide
- Tris (2-chloropropyl) Phosphate
- Tris (1,3-dichloropropyl-2) Phosphate
- Calcium & Zinc Molybdates
- Antimonates
- Chlorinated Paraffins
- Aromatic Phosphate Plasticizers
- Organic Phosphonates

Upholstered Furniture: Next Steps

- **Continue to work toward voluntary std.**
- **CPSC staff briefing package: regulatory alternatives**
  - **Fire hazard data**
  - **Lab testing results & draft standard**
  - **FR chemical risk assessment**
  - **EPA / NIOSH Studies**
  - **Economic & environmental analyses**
  - **Staff recommendations to Commission**

CPSC Options

- **Small open flame ignition**
  - **Issue NPR (proposed standard--could lead to mandatory rule)**
  - **Defer action**
  - **Withdraw ANPR**
- **Cigarette ignition**
  - **Grant or deny 1993 NASFM petition**
- **Polyurethane foam labeling**
  - **Grant or deny NASFM petition**

For Further Information:

contact

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