

U.S. Consumer Product Safety Commission



# CPSC Proposed Rule on Upholstered Furniture Flammability\*

AHFA Flammability Workshop  
March 20, 2008  
Dale R. Ray, Project Manager

\*This information was prepared by the CPSC staff; it has not been reviewed or approved by, and does not necessarily represent the views of, the Commission.  
This document is in the public domain and may be freely copied or reprinted.

# CPSC Status

- Congress restored temporary quorum of 2 Commissioners in July 2007; lapsed February 3, 2008; certain operational functions delegated to the staff
- Vice Chairman Nancy Nord is Acting Chairman; no recent action to appoint a third Commissioner

# CPSC Reauthorization Legislation Status

- H. R. 4040, S. 2663
- Each bill would:
  - Authorize increased funding
  - Reinstate temporary quorum, re-establish 5-member Commission
  - Raise civil & criminal penalties
  - Implement other measures



# Upholstered Furniture: 2003 Advance Notice of Proposed Rulemaking

- Expanded scope of existing CPSC regulatory proceeding to cover smoldering ignition as well as open flame ignition
- CPSC staff developed two draft standards (2005 and 2007) and evaluated regulatory alternatives

# November 2007 Briefing Package

- Fire hazard data
- CPSC staff lab testing data
- Stakeholder comments & recommendations:
  - Scope, test method, FR chemical issues
- Specifications & technical rationale for CPSC staff's 2007 draft standard
- Economic & environmental analyses

# Commission Action

- December 27, 2007: directed staff to prepare draft notice of proposed rulemaking (NPR) based on staff's 2007 draft standard
- February 1, 2008: approved draft NPR
- March 4, 2008: NPR published in *Federal Register* (73 Fed. Reg. 11702)
  - Public comments to CPSC by May 19, 2008
  - Paperwork reduction comments to OMB by May 5, 2008



# CPSC Proposed Rule

- **Targets principal aspect of fire risk = smoldering ignition**
  - Accounts for 90% of addressable deaths, 65% of addressable injuries
  - Furniture with barriers provides open flame protection
- **Minimizes reliance on FR chemical additives in fabrics and filling materials**
- **Affords flexibility to manufacturers & suppliers, and preserves upholstery material choices for consumers**

# Elements of the Proposed Rule

- **Flammability performance**
  - Type I: Smolder resistant cover fabrics
  - Type II: Smolder and open flame resistant interior barriers
- **Certification / testing / recordkeeping**
- **Labeling for finished articles of furniture**
- **Proposed effective date = 1 year after publication of final rule**



# Type I Fabric Test

- **Fabrics must protect interior fillings from progressive smoldering and transition to flaming**
  - Most synthetics are likely to pass
  - Some cellulosics are likely to fail, depending on weight, weave, fiber content, etc.
- **Complying fabrics may be used with any filling materials**

# Type II Barrier Tests

- Barriers must protect interior fillings from progressive smoldering and from flaming by ignited cover fabrics
  - Smoldering test and open flame test
  - Further development of mattress barrier technologies
- Complying barriers may be used with any cover fabrics and filling materials

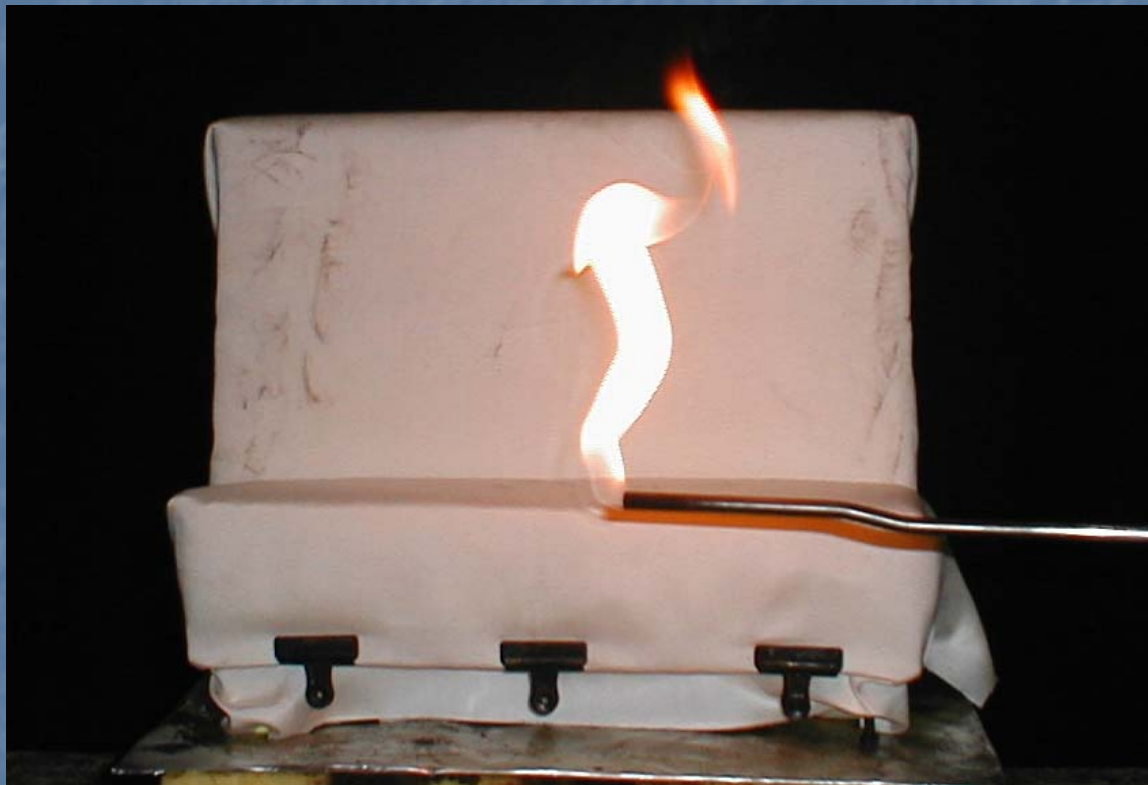
# Mockup & Ignition Source for Cover Fabric & Barrier Smoldering Tests



Standard cigarette ignition source, standard cotton sheeting covering cigarette, standard cotton velvet cover fabric (for barrier test), standard polyurethane foam substrate



# Mockup & Ignition Source for Barrier Open Flame Test



Nominal 240 mm flame, 70 sec. exposure,  
standard rayon cover fabric,  
standard polyurethane foam substrate

# CPSC Proposed Rule: Summary of Performance Requirements

Material	Test Description	Post-test Requirement
<b>Manufacturer selects cover fabrics meeting smoldering requirements</b>		
Cover fabrics / materials (Type I)	Modified ASTM / UFAC mockup; std non-FR foam substrate, std cigarette ignition source; 45 min. test	No smoldering Max. 10% substrate mass loss; No transition to flaming
<b>- OR -</b>		
<b>Manufacturer selects qualified interior fire barrier</b>		
Interior Barriers (Type II)	Smolder Resistance: Modified ASTM / UFAC mockup; std cotton velvet cover fabric, std non-FR foam substrate, std cigarette ignition source; 45 min. test	Max. 1% substrate mass loss
	Open Flame Resistance: BS 5852 mockup; std rayon cover fabric, std non-FR foam substrate, std (240 mm / 70 sec) open flame ignition source; 45 min. test	Max. 20% mockup assembly mass loss

# Testing to Establish Compliance

- One-time testing to establish compliance for a sample of each certified material:
  - 10 initial test specimens:  
pass all 10 → PASS
  - If any failures among initial 10, test 20 additional specimens:  
pass 25/30 → PASS



# Certification & Recordkeeping Requirements

- Manufacturers / importers must ensure and certify compliance
- Based on reasonable testing or possession of guarantees from material suppliers
- No periodic production sampling required
- Records for all tests
  - In English
  - For 3 years after production

# Labeling Requirements

- Name & location of manufacturer (and importer, if any)
- Month & year of manufacture
- Model identification
- Type I or Type II identification
- Statement of certification
- Separate from other label information

# Ongoing CPSC Staff Activities

- Large scale validation testing
- Reduced Ignition Propensity cigarette research
- Obtaining standard test cigarettes
- Monitoring FR chemical issues



# Next Steps

- CPSC staff evaluation of public comments
- Interlaboratory study
- Draft final rule & supporting analyses

# U.S. Consumer Product Safety Commission



## CPSC Proposed Rule on Upholstered Furniture Flammability

Submit comments on the proposed rule to CPSC Office of the Secretary,  
4330 East West Hwy., Bethesda, MD 20814, or [cpsc-os@cpsc.gov](mailto:cpsc-os@cpsc.gov)

For further information contact  
Dale Ray, Project Manager  
301-504-7704 [dray@cpsc.gov](mailto:dray@cpsc.gov)