

# U.S. Consumer Product Safety Commission



Highlights of Apparel and Textile  
Requirements in the United States

September 2015

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# Overview

- Specific requirements that apply to clothing, textiles used for clothing, and sleepwear
  - Regulations under the Flammable Fabrics Act (FFA)
  - Drawstring requirements
  - Consumer Product Safety Improvement Act of 2008 (CPSIA)
- Specific requirements that apply to carpets and rugs, and mattresses and mattress pads
  - Regulations under the Flammable Fabrics Act (FFA)
  - Consumer Product Safety Improvement Act of 2008 (CPSIA)

# Flammable Fabrics Act (FFA)

- Regulated Products
  - Clothing Textiles, 16 CFR Part 1610
  - Vinyl Plastic Film, 16 CFR Part 1611
  - Children's Sleepwear, 16 CFR Parts 1615/1616
  - Carpets and Rugs, 16 CFR Parts 1630/1631
  - Mattresses and Mattress Pads, 16 CFR Part 1632
  - Mattress Sets, 16 CFR Part 1633

# Standard for the Flammability of Clothing Textiles

**16 CFR PART 1610**



# 1610: Background

- Commonly referred to as the *General Wearing Apparel Standard*
- Originally enacted in the 1950s
- Keeps the most dangerously flammable textile products and garments out of the marketplace

# 1610: Summary

- Applies to all adult and children's wearing apparel.
  - Some exceptions and exemptions
- Specifies testing procedures used to determine the relative flammability of textiles used in apparel as one of three classes of flammability.
- Fabrics that meet a *specific exemption* do not require testing.

# §1610.1(c): Exceptions

- Interlining fabrics
- Most hats, gloves, and footwear
- Examples that are not exempt:
  - Gloves longer than 14 inches and or attached to a garment
  - Hats that cover the neck, face, or shoulders
  - Footwear that consists in whole or in part of hosiery or is part of another garment

# §1610.1(d): Specific Exemptions

- Plain surface fabrics  $\geq 88.2 \text{ g/m}^2$  (2.6 oz/yd<sup>2</sup>), regardless of fiber content
- Plain and raised surface fabrics made of:
  - acrylic,
  - modacrylic,
  - nylon,
  - olefin,
  - polyester,
  - wool,or any combination of these fibers, regardless of weight.

# 1610: Test Summary

- 16 mm (5/8 in) flame impinges on specimen mounted at 45 degree angle for 1 second
- Allowed to burn full length or until stop thread breaks
- Results of several tests are averaged and a Class designation is assigned



# 1610: Test Summary

- First step: Determine fabric type and specifications
  - Plain surface textile fabric or raised surface textile fabric
  - Fabric weight
  - Fiber content
- Preliminary burns are conducted to determine the fastest burning area and direction of fabric.
- Fabrics are tested in their original state, 5 specimens
  - Tested in direction of fastest burn time
  - Raised surface fabrics are brushed to raise fibers
- Class 1 and 2 fabrics are refurbished and tested again, another 5 specimens
  - All samples are dry cleaned
  - All samples are washed and tumble dried, 1 cycle
- The burn time of several specimens is averaged and a Class (Class 1, 2, or 3) designation is made based on the average burn time (speed of burning) and surface characteristics of the sample.

# 1610: Test Summary

Determine fabric type and specifications

- Plain surface or raised surface textile fabric
- Fabric weight
- Fiber content



*Determining the direction of the pile*

# 1610: Test Summary

Prepare specimens:

- Preliminary burns are performed to determine the fastest burning direction and area of the fabric
- Raised fiber fabrics are brushed



*Mounting the specimen in the sample holder*

# 1610: Test Summary

Condition  
specimens

- 30 minutes at 105 degrees C
- Cool in desiccator



*Mounting the specimen in the sample holder*

# 1610: Test Summary

Test specimens:

- Apply flame for 1 second
- Allow to burn full length or until self-extinguishes
- Operator should observe behavior closely



*Placing the specimen in the test chamber*

# 1610: Test Summary

Refurbish and retest:

- Standard laundering and dry cleaning procedure
- Prepare and test samples after refurbishment



*Measuring the washer water temperature*

# 1610: Classifications

- Class 1 – plain and raised surface fabrics that have no unusual burning characteristics and are acceptable for use in clothing
- Class 2 – raised surface fabrics only, intermediate flammability-use with caution
- Class 3 – fabrics are dangerously flammable and *CANNOT* be used in wearing apparel

<u>Classification</u>	<u>Plain Surface</u>	<u>Raised Fiber Surface</u>
Class 1	Average burn time $\geq 3.5$ s	Average burn time $> 7.0$ s OR Average burn time is 0-7 s with no base burns (SFBB)
Class 2	N/A	Average burn time is 4-7 s with base burn (SFBB)
Class 3	Average burn time $< 3.5$ s	Average burn time $< 4.0$ s with base burn (SFBB)

# 1610: Common Noncomplying Fabrics

- Sheer 100% rayon skirts and scarves
- Sheer 100% silk scarves
- 100% rayon and rayon/nylon chenille sweaters
- Long animal hair sweaters
- Polyester/cotton and 100% cotton fleece garments
- 100% cotton terry cloth robes

Standards for the Flammability of  
Children's Sleepwear

**16 CFR PARTS 1615 AND 1616**



# 1615 & 1616: Background

- Originally developed in the early 1970s to address the ignition of children's sleepwear, such as nightgowns, pajamas, and robes.
- Intended to protect children from small open-flame sources, such as matches/lighters, candles, fireplace embers, stoves, and space heaters.
- Not intended to protect children from large fires or fires started by flammable liquids, such as gasoline.

# 1615 & 1616: What is Covered?

- Any product of wearing apparel intended to be worn primarily for sleeping or activities related to sleep in sizes larger than 9 months through size 14.
  - Nightgowns, pajamas, robes, or similar or related items, such as loungewear, are included.
- Several factors determine if a garment is sleepwear:
  - Suitability for sleeping, likelihood of garment to be used for sleeping
  - Garment and fabric features
  - Marketing, merchandising/display, intended use

# 1615 & 1616: Exceptions

## Diapers and Underwear (exempt)

- Must comply with 16 CFR Part 1610

## Infant garments (exempt)

- Sizes 9 months or younger
- One-piece garment does not exceed 64.8 cm (25.75") in length
- Two-piece garment has no piece exceeding 40 cm (15.75") in length
- Must comply with 16 CFR Part 1610

# 1615 & 1616: Exceptions

## Tight-Fitting Sleepwear (exempt)

- Tight-fitting garments (defined by the Standards) are exempt from testing to the sleepwear requirements.
- Must meet specific maximum dimensions.
- Must comply with 16 CFR Part 1610.
- Must meet labeling requirements.



For child's safety, garment should fit snugly.  
This garment is not flame resistant.  
Loose-fitting garment is more likely to catch fire.

# 1615 & 1616: Requirements

- Children's sleepwear (that is not tight-fitting) must pass the flammability requirements.
  - All fabrics and garments must be flame resistant and self-extinguish (not continue to burn) when removed from a small, open-flame ignition source.
- Multiple stages of testing are required, following prescriptive sampling plans

# 1615 & 1616: Requirements

- Multiple stages of testing are required, following prescriptive sampling plans

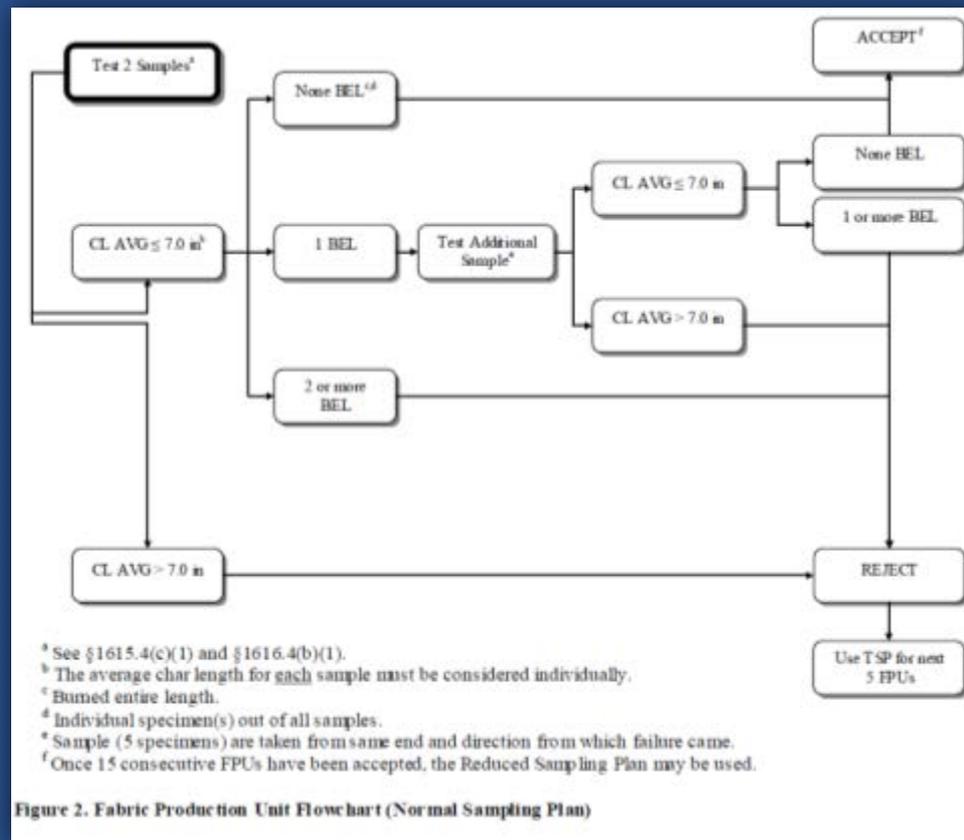
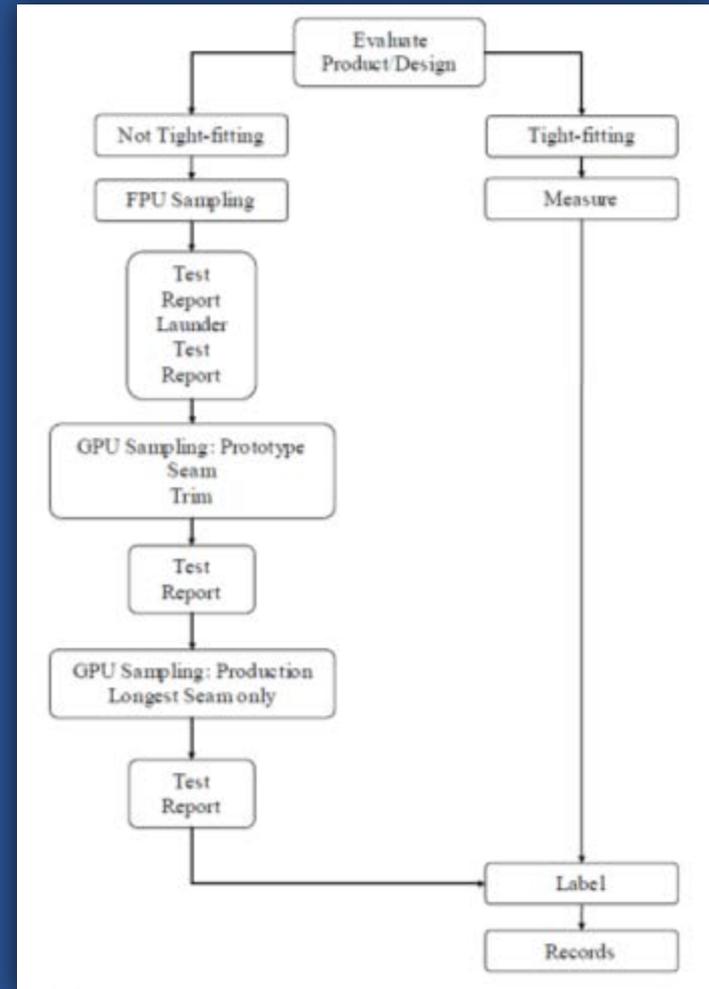


Figure 2. Fabric Production Unit Flowchart (Normal Sampling Plan)

# 1615 & 1616: Summary

- Requires tests of fabric, seams, and trim
- Each test sample consists of five specimens
- Each specimen is placed in a metal holder and suspended vertically in the test cabinet.
- Tests conducted in original state and after 50 laundering cycles (if the sample passes the original state test)



# Children's Sleepwear Standards

- Five 8.9 cm x 25.4 cm (3.5 inches x 10 inches) specimens of fabric, seams, and trim.
- Specimens are conditioned before testing.
- The gas flame of 3.8 cm (1.5 inches) is applied to the bottom edge of the specimen for 3 seconds.
- Char (burn) length is measured after the flame/afterglow has ceased.



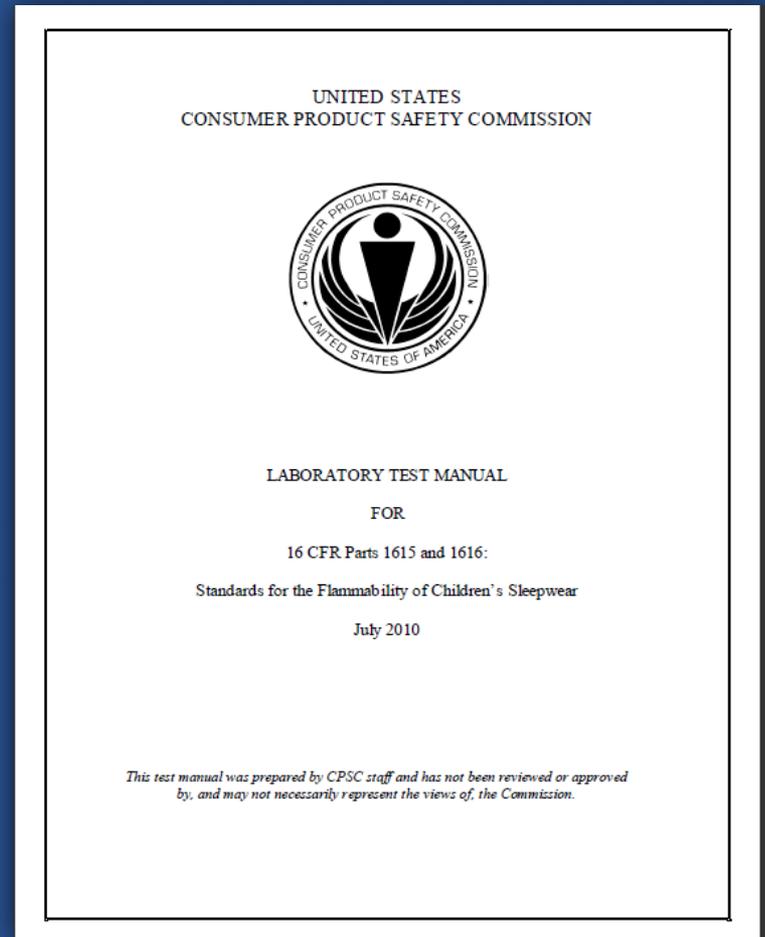
*Preparing to apply ignition source to specimen*

# 1615 & 1616: Requirements

- The average char length of 5 specimens cannot exceed 17.8 cm (7.0 inches).
- No individual specimen can have a char length of 25.4cm (10.0 inches) (full-specimen burn).
- Production testing and recordkeeping requirements
  - Tested samples must be retained

# FFA Guidance

- <http://www.cpsc.gov/en/Regulations-Laws--Standards/Regulations-Mandatory-Standards--Bans/Regulated-Products/>
  - Search by product (use *wearing apparel* and *sleepwear*)
  - <http://www.cpsc.gov/business/loungewear.pdf>

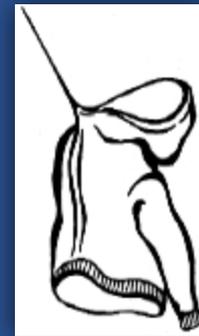


# Drawstrings on Children's Clothing

**ASTM F1816-97**

# Drawstring Requirements Children's Clothing

- CPSC issued guidelines (1996) later adopted by ASTM in 1997 (ASTM F1816-97)
  - May 2006 letter to industry  
(<http://www.cpsc.gov/PageFiles/135448/drawstring.pdf>)
- Substantial product hazard
- Applies to drawstrings on upper outerwear, jackets, and sweatshirts
  - Sizes 2T-12 (or equivalent) with neck or hood drawstrings
  - Sizes 2T-16 (or equivalent) with waist or bottom drawstrings that do not meet specified criteria
- Dresses are not upper outerwear
- Belts are not drawstrings



# Impact on Textiles and Related Products

## **THE CONSUMER PRODUCT SAFETY IMPROVEMENT ACT**

# CPSIA Requirements: Non-children's Products

- A General Certification of Conformity (GCC) is required for all products subject to a rule, ban, standard, or similar rule, ban, standard, or regulation under any act administered and enforced by the CPSC
  - GCC shows conformance to applicable requirements (e.g., flammability)
  - Example: for all products subject to 16 CFR Part 1610, including items that meet the Part 1610 specific exemptions and do not require testing
  - Manufacturer or importer must issue a certificate to indicate that the product complies and why a test has not been conducted

# CPSIA Requirements: Children's Products

- Many of the new requirements are specifically for children's products
- Children's products are products designed and intended primarily for children 12 years or younger
- Additional requirements for child care articles, items that are used for feeding/sleeping for children three years or younger

# CPSIA Requirements: Children's Products

- Third-party testing: Certification based on testing performed by an accredited third party laboratory recognized by the CPSC
- Children's Product Certificate (CPC) required
  - CPC shows conformance to applicable requirements (e.g., flammability, lead, phthalates), based on third party testing
- Lead content and surface coating limits must be met for certain components of textile products
- Tracking labels required
- Child care articles (sleepwear for children 3 and under) subject to phthalate requirements

# CPSIA Requirements-Lead

- 16 CFR Part 1303 protects consumers, especially children, from being poisoned from excessive lead in surface coatings on certain products. Includes surface coatings on toys or other articles intended for use by children, *including clothing accessories*.
- The ban covers paint or any other similar surface coating that contains more than 0.009% lead (lead containing paint).
- Section 101 limits the amount of lead content of children's products to 100 ppm

# CPSIA Requirements-Lead

- Lead content and surface coating limits must be met for certain components of textile products
  - For example, buttons, snaps, grommets, zippers, heat transfers, and screen prints
- February 6, 2009, CPSC staff issued an enforcement policy on lead that is significant to the textile industry.
- 16 CFR § 1500.91 lists determinations made by CPSC where certain materials will not exceed lead limits; includes dyed or undyed textiles and nonmetallic thread and trim used in children's apparel and fabric products

# CPSIA Requirements: Tracking Labels

- Require manufacturers of children's products, to *the extent practicable*, to place distinguishing, permanent marks on a product and its packaging that would enable the purchaser to ascertain the source, date, and cohort (including the batch, run number, or other identifying characteristic) of production of the product by reference to those marks.

# What's Required: Clothing

- Adult clothing:
  - 16 CFR Part 1610 (Flammability)
  - GCC Required, including for products that are exempt from testing



# What's Required: Children's Clothing

- Children's Clothing:
  - 16 CFR Part 1610 (Flammability)
  - CPC Required, Third Party Testing
  - Lead Content
  - Lead Surface Coating
  - Tracking Labels
  - Drawstring Requirements



# What's Required: Children's Sleepwear

- Children's Sleepwear:
  - 16 CFR Parts 1615 and 1616 (Flammability)
    - 16 CFR Part 1610 if tight-fitting
  - CPC Required, Third Party Testing
  - Lead Content
  - Lead Surface Coating
  - Tracking Labels
  - Phthalate Requirements (sleepwear children under three)



# 16 C.F.R. Parts 1630 & 1631 : Carpets and Rugs

- Intended to protect consumers from surface ignition of carpets and rugs
- Must pass specified flammability tests
  - The char does not extend to within 1 inch of the flattening frame
- Labeling provision under 16 C.F.R. part 1631



# 16 C.F.R. Part 1632: Smoldering Ignition of Mattresses

- Must pass specified flammability tests
  - The char does not extend beyond 2 inches from the ignition source, a lit cigarette
  - Specified cigarette ignition source is NIST SRM 1196
- Mattresses and mattress pads are included
- Includes component tests for tickings and tape edges



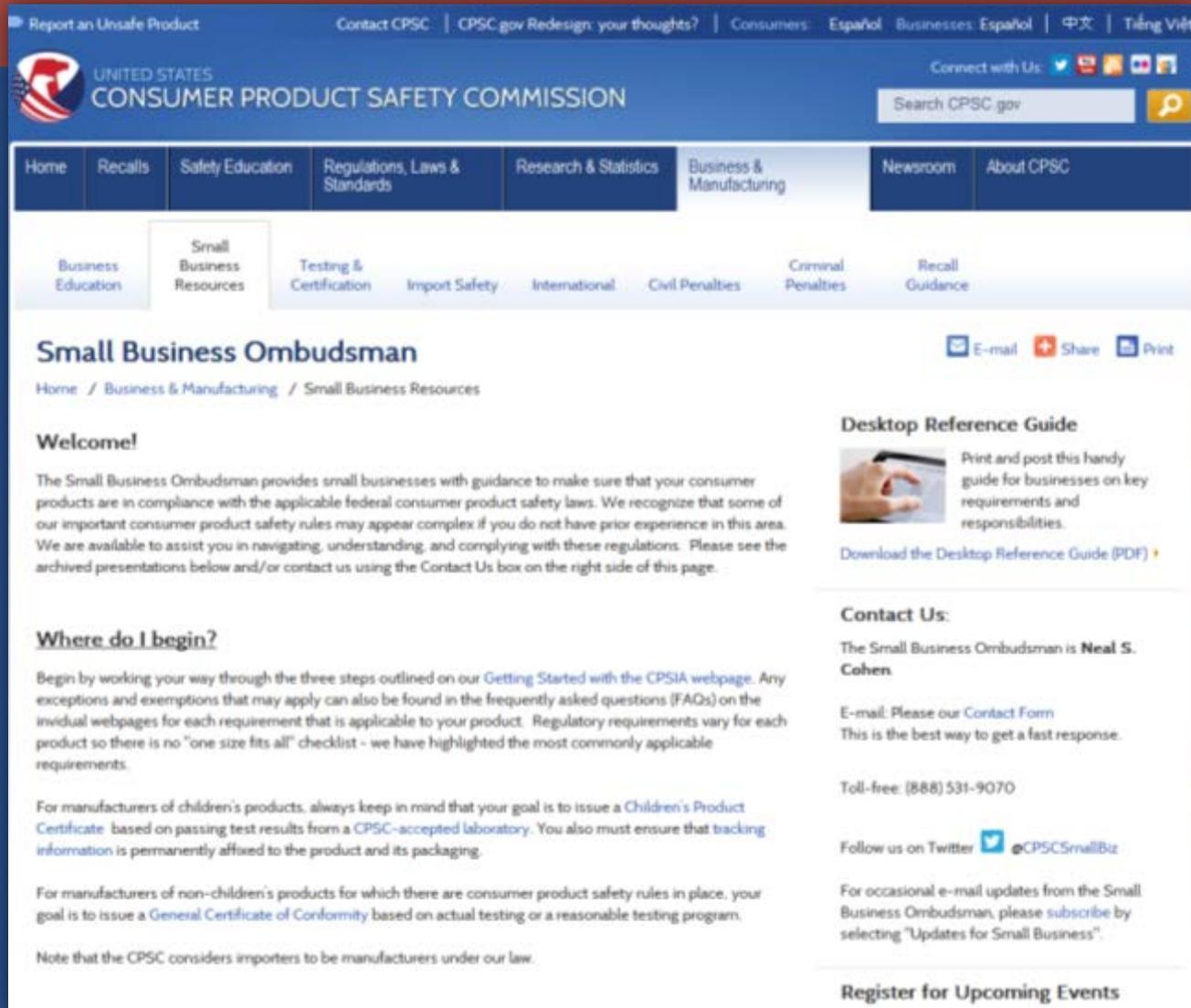
# Summary of 16 C.F.R. Part 1633: Open-Flame Ignition of Mattresses

- Covers mattress sets
- Outlines testing, labeling, and recordkeeping requirements
- Open-flame ignition source (two propane burners)
- Specifies two performance criteria:
  - Cannot exceed peak heat release rate (HRR) of 200kW during a 30 minute test
  - May not exceed total heat release (THR) of 15 MJ in first 10 minutes of test

# 1633: Open Flame Ignition of Mattress Sets



# Resource: Small Business Ombudsman



The screenshot shows the CPSC website's navigation and content for the Small Business Ombudsman. The top navigation bar includes links for reporting unsafe products, contacting CPSC, and language options. The main navigation menu lists various CPSC functions, with 'Small Business Resources' highlighted. The page title is 'Small Business Ombudsman', and the breadcrumb trail shows the path from Home to Business & Manufacturing to Small Business Resources. The main content area features a 'Welcome!' section with introductory text, a 'Where do I begin?' section with detailed guidance, and a 'Desktop Reference Guide' section with a PDF download link. A 'Contact Us' section provides information about Neal S. Cohen, including an email contact form, a toll-free number, and a Twitter handle. A 'Register for Upcoming Events' link is also present at the bottom.

Report an Unsafe Product | Contact CPSC | CPSC.gov Redesign: your thoughts? | Consumers: Español | Businesses: Español | 中文 | Tiếng Việt

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## Small Business Ombudsman

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### Welcome!

The Small Business Ombudsman provides small businesses with guidance to make sure that your consumer products are in compliance with the applicable federal consumer product safety laws. We recognize that some of our important consumer product safety rules may appear complex if you do not have prior experience in this area. We are available to assist you in navigating, understanding, and complying with these regulations. Please see the archived presentations below and/or contact us using the Contact Us box on the right side of this page.

### Where do I begin?

Begin by working your way through the three steps outlined on our [Getting Started with the CPSIA webpage](#). Any exceptions and exemptions that may apply can also be found in the frequently asked questions (FAQs) on the individual webpages for each requirement that is applicable to your product. Regulatory requirements vary for each product so there is no "one size fits all" checklist - we have highlighted the most commonly applicable requirements.

For manufacturers of children's products, always keep in mind that your goal is to issue a [Children's Product Certificate](#) based on passing test results from a CPSC-accepted laboratory. You also must ensure that [tracking information](#) is permanently affixed to the product and its packaging.

For manufacturers of non-children's products for which there are consumer product safety rules in place, your goal is to issue a [General Certificate of Conformity](#) based on actual testing or a reasonable testing program.

Note that the CPSC considers importers to be manufacturers under our law.

### Desktop Reference Guide

 Print and post this handy guide for businesses on key requirements and responsibilities.

[Download the Desktop Reference Guide \(PDF\)](#)

### Contact Us:

The Small Business Ombudsman is **Neal S. Cohen**.

E-mail: [Please our Contact Form](#)  
This is the best way to get a fast response.

Toll-free: (888) 531-9070

Follow us on Twitter [@CPSCSmallBiz](#)

For occasional e-mail updates from the Small Business Ombudsman, please [subscribe](#) by selecting "Updates for Small Business".

### Register for Upcoming Events

<http://www.cpsc.gov/en/Business--Manufacturing/Small-Business-Resources/>

# Resource: Searchable List of Laboratories

## List of CPSC-Accepted Testing Laboratories

Section 14(a)(3)(E) of the Consumer Product Safety Act, as amended, requires the Commission to 'maintain on its Internet website an up-to-date list of entities that have been accredited to assess conformity with children's product safety rules.'

Third party testing is required to support a certification of compliance to the rules (shown at the bottom of the page) for children's products that are manufactured after the effective dates listed with each rule. The laboratories in this list have been accepted as accredited to test products to one or more of these children's product safety rules, as identified in the accreditation scope for each laboratory. A manufacturer of a children's product that must comply with one or more of these rules must support its certification of compliance with test results from one of these laboratories.



Element Materials Technology (United States, MN)  
Exova Canada Inc., Mississauga Laboratory (Canada, ON)  
Intertek Testing Services NA, Grand Rapids MI (Kentwood MI) (United States, MI)  
Intertek Testing Services NA, Inc. - SAT (Elmendorf, TX) (United States, Texas)  
LAPI Laboratorio Prevenzione Incendi SpA (Italy, PO)  
Milliken Pyroanalytical Center (United States, SC)  
QAI Laboratories, Inc. - Tulsa (United States, OK)  
Sealy Inc. Regulatory Compliance Labratory (United States, NC)  
SGS-CSTC Standard Technical Service Co., Ltd. Anji Branch Testing Center (China, Zhejiang)  
SGS-CSTC Standards Technical Services Co. Ltd. Guangzhou Branch Testing Center (China, Guang  
STC (Dongguan) Company Ltd (China, Guangdong)  
The Govmark Organization, Inc. (United States, New York)

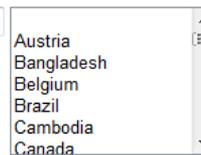
Highlighting any laboratory and then clicking  will display contact, rules, and other information for that laboratory.

## Narrow the Laboratory List:

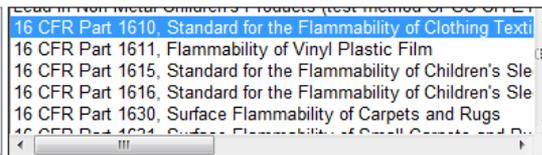
By making entries or selections below, and then clicking 'Narrow List', you can modify the list above to display only those laboratories meeting your selected criteria. To see all entries, please click 'See All'.

<b>Keyword/Letters</b>	<b>Region</b>	<b>Scope</b>
(Only laboratories containing these letters are listed. Leave blank to not limit by letters)	(Only laboratories in selected region are listed; select blank at top to not limit by region)	(Only laboratories accredited for the selected rule(s) are listed; select blank at top to not limit by rule. To choose more than one rule, depress the 'Ctrl' key while making selections)

Enter word/letters



Austria  
Bangladesh  
Belgium  
Brazil  
Cambodia  
Canada



Lead in Non-Victrol Children's Products (test method of 16 CFR Part 1610, Standard for the Flammability of Clothing Textile  
16 CFR Part 1611, Flammability of Vinyl Plastic Film  
16 CFR Part 1615, Standard for the Flammability of Children's Sleepwear  
16 CFR Part 1616, Standard for the Flammability of Children's Sleepwear  
16 CFR Part 1630, Surface Flammability of Carpets and Rugs  
16 CFR Part 1634, Surface Flammability of Small Carpets and Rugs

<http://www.cpsc.gov/cgi-bin/labsearch/>

# *For Further Information:*

Ms. Patricia Adair  
Division Director  
Directorate for Engineering Sciences  
301-987-2238  
[padair@cpsc.gov](mailto:padair@cpsc.gov)

[www.cpsc.gov](http://www.cpsc.gov)

