

U.S. Consumer Product Safety Commission

Overview of U.S. Textile Requirements Jacqueline Campbell



MARCH 2018

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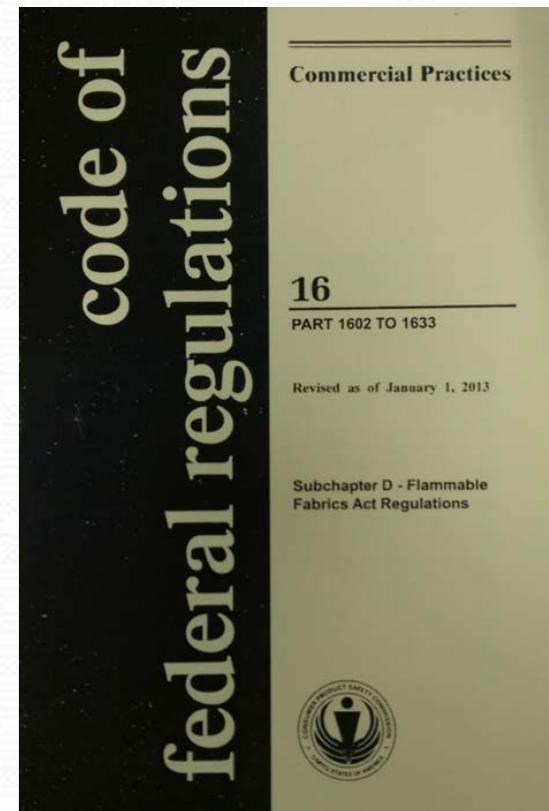
The slides in this presentation are intended to be used in a training event with verbal elaboration by a knowledgeable presenter. The slides highlight key U.S. product safety requirements for this discussion. The text is not a comprehensive statement of legal requirements or policy and should not be relied upon for that purpose. You should consult official versions of U.S. statutes and regulations, as well as published CPSC guidance when making decisions that could affect the safety and compliance of products entering U.S. commerce. Note that references are provided at the end of the presentation and a handout on phthalates prohibitions in children's toys and child-care articles is also available.

Topics

- Flammable Fabrics Act
- Scope of Apparel Requirements
 - Clothing Textiles, Children's Sleepwear, Drawstrings
- Other CPSA Requirements
 - Certification Requirements
 - Chemical Content
 - Tracking Labels
 - Small Parts
- Summary of Requirements by Product Type
- Resources

Flammable Fabrics Act (FFA)

- Primary authority for CPSC-regulated textiles
- Focus on flammability performance
- Regulations
 - **General wearing apparel**
 - 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



Clothing Textiles, Children's Sleepwear, Drawstrings

CPSC Apparel Requirements

Clothing Textiles

- Applies to:
 - All textiles used for adult and children's wearing apparel.
- Does not apply to:
 - Hats, gloves, footwear, and interlining fabrics with some exceptions (see §1610.1(c)).
 - Children's sleepwear must meet a more stringent standard.

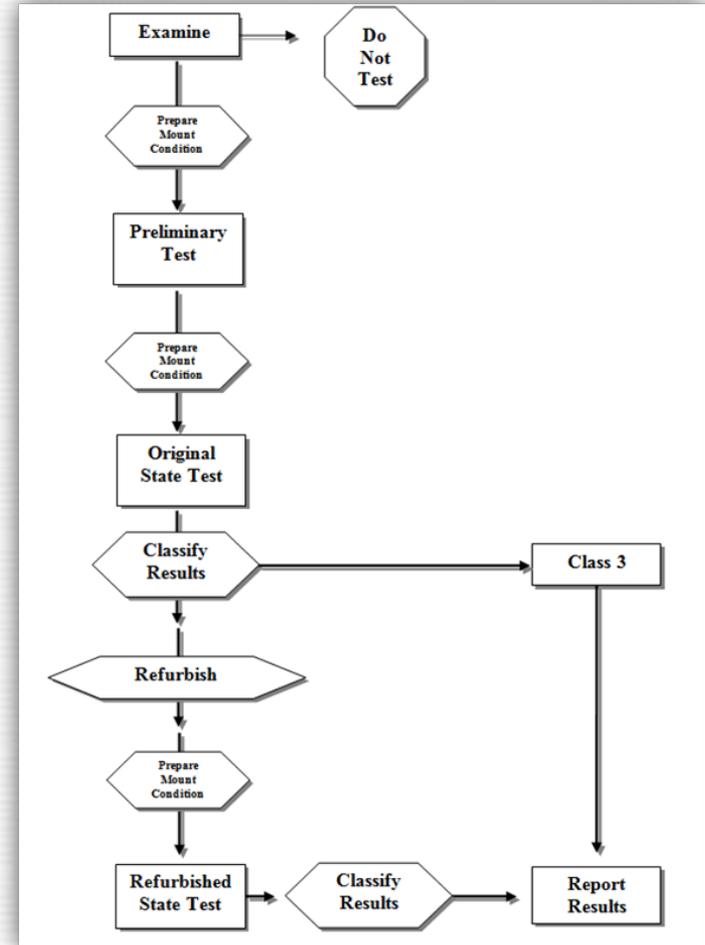
Clothing Textiles

- Some fabrics are exempted from testing requirements:
 - All plain-surface fabrics greater than or equal to 88.2 g/m² (2.6 oz/yd²).
 - Any fabric made in whole or with a blend of the following fiber types only.
 - Acrylic, modacrylic, nylon, olefin, polyester, wool

Know your fabric surface type, fiber type(s), and fabric weight

Clothing Textiles

- Determine fiber type and fabric construction
- Preliminary test
- Prepare and condition
- Test
- Preliminary classification
- Refurbish and repeat test
- Final classification
- Report



Clothing Textiles

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



Clothing Textiles

- Classification
 - Class 1
 - Plain and raised fiber surface fabrics
 - No unusual burning characteristics and are acceptable for use in clothing
 - Class 2
 - Raised fiber surface fabrics only
 - Intermediate flammability- use with caution
 - Class 3
 - Plain and raised fiber surface fabrics
 - 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 ≥ 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)

Clothing Textiles

- Classification Codes (raised fiber surface only)

Code	Description	Time Reported
SF uc	Surface flash, under stop thread, but does not break thread.	None
SF pw	Surface flash, part way; does not break thread.	None
SF poi	Surface flash, at point of impingement only; equivalent to DNI for plain surface fabrics.	None
._ sec	Actual burn time (sec) measured and recorded by the timing device.	Yes
._ SF	Time (sec), surface flash only; no damage to the base fabric.	Yes
._ SFBB	Time (sec), surface flash base burn starting at places other than the point of impingement as a result of surface flash.	Yes
._ SFBBpoi	Time (sec), surface flash base burn starting at the point of impingement.	Yes
._ SFBBpoi*	Time (sec), surface flash base burn possibly starting at the point of impingement; the asterisk is accompanied by the following statement if there is a question as to the origin of the base burn: <i>Unable to make absolute determination as to source of base burns.</i>	Yes
Note:	A result of SFBBpoi or SFBBpoi* does not qualify as a base burn under the current interpretation of 16 CFR Part 1610.	

Clothing Textiles

- Common Types of Noncompliant Fabrics

- Lightweight, sheer fabrics of rayon and silk

Example: Scarves

- Raised fiber surface cellulose or cellulose blend fabrics

Examples: rayon and rayon-blend chenille, cotton and cotton-blend fleece, cotton terry



Clothing Textiles

iFashioning Recalls Women's Scarves Due to Violation of Federal Flammability Standard; Sold Exclusively on Amazon.com (Recall Alert)



Blackwhite women's scarf

Name of product:

Women's scarves

Hazard:

The **women's scarves** fail to meet federal flammability standard for clothing textiles, posing a risk of burn injuries to consumers.

Remedy:

Refund

Recall date:

June 15, 2017

Recall number:

17-749

Hazard:

The **women's scarves** fail to meet federal flammability standard for clothing textiles, posing a risk of burn injuries to consumers.

Clothing Textiles

- Recordkeeping (see §1610.38)
 - Test results, including classification
 - Fiber composition, fabric finish and type, and any other identifying information
 - Fabric swatch

Vinyl Plastic Film

- Standard for the Flammability of Vinyl Plastic Film (16 CFR part 1611)
- Applies to non-rigid, unsupported vinyl plastic film, including transparent, translucent, and opaque material used in wearing apparel subject to the FFA
 - Examples: disposable diapers, raincoats, some costumes
- Specifies testing procedures to determine the average burn time of vinyl plastic film
 - May not exceed 1.2 inches per second (average)
- Same recordkeeping as 16 CFR part 1610

Children's Sleepwear

- Standard for the Flammability of Children's Sleepwear
 - Sizes 0 Through 6X (16 C.F.R. part 1615)
 - Sizes 7 Through 14 (16 C.F.R. part 1615)
- Applies to garments intended to be worn primarily for sleeping or activities related to sleeping
 - Examples: nightgowns, pajamas, robes
- Specifies a sampling scheme and testing procedures to determine the flammability of children's sleepwear
 - Char length may not exceed 17.8 cm (7.0 in) (average)
 - No single sample may burn the full length

Children's Sleepwear

All children's sleepwear fabrics, trim, and garments must be flame resistant and self-extinguish (not continue to burn) when removed from a small, open-flame ignition source.



Children's Sleepwear

- What determines that a garment is considered children's sleepwear?
 - Suitability for sleeping, likelihood of garment to be used for sleeping
 - Garment and fabric features
 - Marketing, merchandising/display, intended use
- Items marketed as “loungewear” or similar terms are also subject to the requirements.

https://www.cpsc.gov/s3fs-public/pdfs/blk_pdf_sleepwearpolicy.pdf

Children's Sleepwear

- What does not require sleepwear testing?
 - Diapers and underwear
 - Infant garments (9 months or younger)
 - Tight-fitting sleepwear

These categories are defined in §§1615.1(a)(1)-(3) and 1616.2(a)(1)-(2).

- Must meet clothing textile requirements (1610).

Children's Sleepwear

- What is an infant garment?
 - Size 9 months or younger (clearly labeled)
 - 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

Children's Sleepwear

- What is a tight-fitting sleepwear garment?
 - Based on size, meets prescribed maximum dimensions in multiple garment locations.
 - Tables can be found in §§1615.1(o) and 1616.2(m).
 - Must meet labeling and hang tag requirements.

WEAR SNUG-FITTING
NOT FLAME RESISTANT

130 cm | 8
COMPANY NAME
COMPANY LOGO

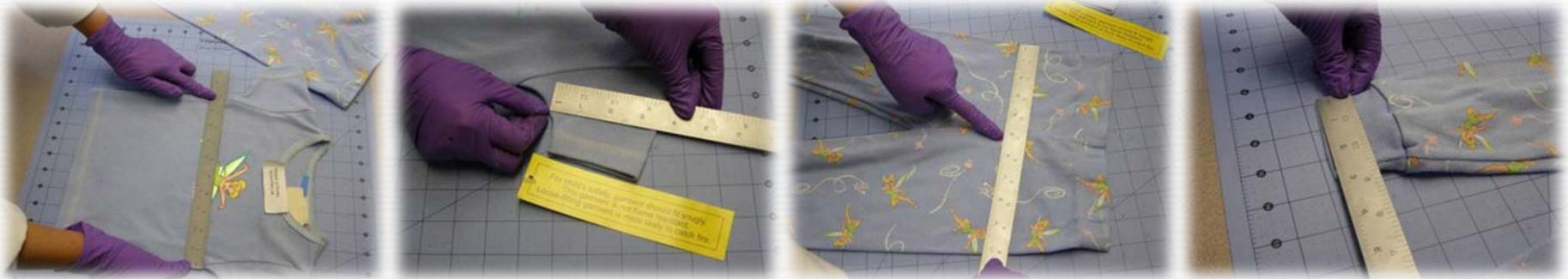
COMPANY NAME
COMPANY LOGO

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

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

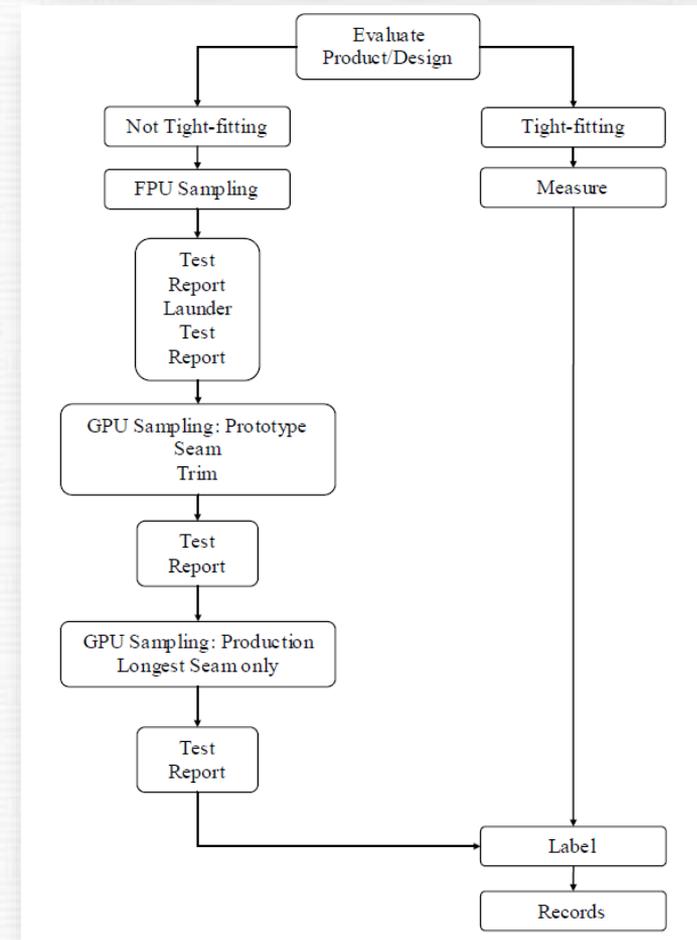
Children's Sleepwear

- How do you measure a tight-fitting sleepwear garment?
 - Diagrams 1-3 in 16 C.F.R. parts 1615 and 1616
 - Appendix B in laboratory manual



Children's Sleepwear

- Fabric Sampling
 - Sample
 - Test
 - Launder 50 times
 - Test
- Garment Sampling
 - Prototype
 - Test seams
 - Test any trim
 - Production
 - Test longest seam only



Children's Sleepwear

- Specified Production Sampling
 - Multiple stages of testing are required, following prescriptive sampling plans (tightened fabric sampling plan below).

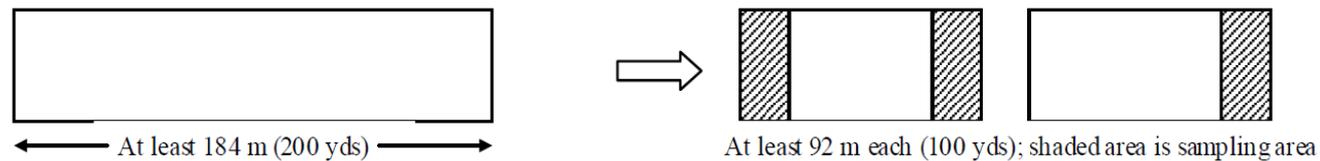


Figure 3. Example of sampling from one fabric piece

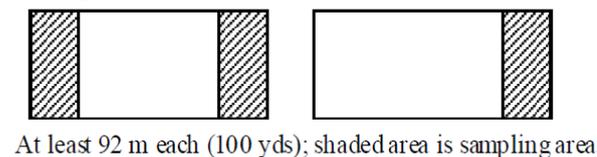


Figure 4. Example of sampling from two fabric pieces

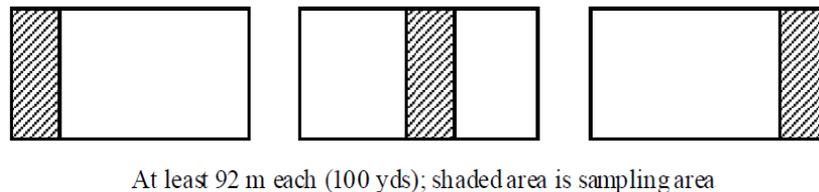


Figure 5. Example of sampling from three fabric pieces

Children's Sleepwear

- Fabric Production Unit (FPU)
 - Either 4 or 6 samples (5 specimens each).
 - Test half in finished state (as produced or after 1 laundering cycle) and half after 50 laundering cycles.
- Garment Production Unit (GPU)
 - Prototype
 - Seams: for the longest seam type, 3 samples (5 specimens each) and 3 samples (5 specimens each) made up of the other seam types that are least 10 inches long.
 - Trim: for each trim type and orientation, 3 samples (5 specimens).
 - Production (garments)
 - For the longest seam type, 3 samples (5 specimens each).
 - A second set of samples is required for recordkeeping.

A second set of samples is required to be produced and maintained for recordkeeping

Children's Sleepwear

- What can make up a FPU?
 - Up to 4,600 m (5,000 yd) of fabric; 9,200 m (10,000 yd) for a Reduced Sampling Plan
 - Fabrics of different colors or different print patterns (not both) of the same fabric
 - To include different colors or prints in a single FPU equivalent performance must be shown through testing.

Children's Sleepwear

- What can make up a GPU?
 - Up to 500 dozen finished garments
 - Must maintain a specific identity exclusive of size, trim, findings, color, and print patterns.
 - A specific identity uses the same fabric, thread, and longest seam type.
 - Solid colors or different print patterns (with same flammability performance based on tests), but not both.
 - Prototype
 - Characterize flammability of all types of seams and decorative trim.
 - Production
 - Verify the flammability performance of the prototype after full-scale production.

Children's Sleepwear

- Seams
 - Prototype stage: Test all seam types at least 10 inches long, including side seams, arm holes, collars, or yokes, whether ruffled, straight, gathered, or a combination.
 - Do not test seams used to attach functional materials or findings or untrimmed coverbind edge finishes or hems.
 - Production stage: Only the longest seam type is required to be tested.

Children's Sleepwear

- Trim

- Trim is defined as decorative materials, such as ribbons, laces, embroidery, screen prints, or ornaments.
- Test all decorative trim types at prototype stage.
- Different colors of trim are considered different trim types.
- Test in a horizontal or vertical configuration, determined by location and orientation on the garment.
- Functional edge bindings, functional findings (ex. zippers, buttons), and individual pieces less than 5.08 cm (2 in) are not required to be tested.

See Appendix E in the children's sleepwear laboratory manual for more information.

Children's Sleepwear

- Test Procedure:
 - 38 mm (1.5 in) flame impinges on the bottom edge of a specimen mounted vertically for 3 seconds.
 - Allowed to burn until the flame self extinguishes or burns entire specimen.
 - Char length is measured.



Children's Sleepwear

- Recordkeeping (see §§1615.31(e) and 1616.31(d))
 - General

Sampling plans; FPU or GPU of all garments; test results for all stages of testing (including test results used to include different colors or prints); disposition of any failing or rejected items; fiber content and manufacturing specifications; identification, composition, and details of any FR treatments; sales information.
 - Fabrics

Identical set of fabric samples to those tested (and FPU details).
 - Garments

Details of construction, fiber content, and manufacturing specifications; sampling details; identical set of all prototype and production samples to those tested; remains of tested samples; FPU and GPU details and records; a complete untested garment from each style and type.

Children's Sleepwear

Dondolo Recalls Children's Sleepwear Due to Violation of Federal Flammability Standard



pajama set

Name of product:

Children's nightgowns and two-piece pajama sets

Hazard:

The children's nightgowns and two-piece pajama sets fail to meet the federal flammability standards for children's sleepwear, posing a risk of burn injuries to children.

Remedy:

Refund

Recall date:

November 1, 2017

Recall number:

18-021

Hazard:

The children's nightgowns and two-piece pajama sets fail to meet the federal flammability standards for children's sleepwear, posing a risk of burn injuries to children.

Drawstrings

- Young children can be seriously injured or subject to fatal entanglement if the drawstrings of the upper outerwear they are wearing catches or snags.
- 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>
- Commission determined in 2011 that drawstrings on children's upper outerwear present a substantial product hazard and issued a rule under 15(j) of the Consumer Product Safety Act (CPSA).
<https://www.cpsc.gov/PageFiles/101537/drawstringrule.pdf>

Drawstrings

- Applies to drawstrings at the neck or waist on upper outerwear.
 - Clothing generally intended to be worn on the exterior of other garments (ex. jackets, ski vests, anoraks, and sweatshirts).
 - Ties are considered drawstrings and are subject to the requirements.
- Does not apply to:
 - Underwear, inner clothing layers, pants, shorts, swimwear, dresses and skirts. These items are not considered upper outerwear.
- Belts are not drawstrings and are not subject to the requirements.

Drawstrings

- Hood and neck area (sizes 2T through 12)
 - Not allowed.
 - Use alternative closures, such as snaps, buttons, Velcro, and elastic.
- Waist and bottom drawstrings (sizes 2T to 16)
 - Allowed, but must meet certain requirements.
 - Drawstring must not extend more than 3 inches from the channel when the garment is expanded to its fullest width.
 - Continuous drawstrings must be bar tacked or stitched through to prevent the drawstring from being pulled through its channel.
 - Cord locks, knots, toggles, or other attachments at the free ends of drawstrings are prohibited (even on fully retractable drawstrings).

Drawstrings

Children's Apparel Network Recalls Girl's Clothing Sets; Waist Belt Poses Risk of Entrapment



Young Hearts brand girl's clothing set

Name of product:

Girl's Three-Piece Clothing Sets

Hazard:

The vest sold with these sets has a faux half-belt sewn into the side seams with a hook and eye closure at the waist that could become snagged or caught in small spaces or vehicle doors and it poses an entanglement hazard. In February 1996, CPSC issued [guidelines about drawstrings](#) in children's upper outerwear.

In 1997, those guidelines were incorporated into a voluntary standard. Then, in July 2011, based on the guidelines and voluntary standard, CPSC issued a federal regulation. CPSC's actions demonstrate a commitment to help prevent children from strangling or getting entangled on neck and waist drawstrings in upper outerwear, such as jackets and sweatshirts.

Remedy:

Repair
Refund

Recall date:

April 24, 2013

Recall number:

13-177

Hazard:

The vest sold with these sets has a faux half-belt sewn into the side seams with a hook and eye closure at the waist that could become snagged or caught in small spaces or vehicle doors and it poses an entanglement hazard. In February 1996, CPSC issued [guidelines about drawstrings](#) in children's upper outerwear.

Certification, Chemical Content, Tracking Labels,
Small Parts

Other CPSA Requirements

Certification

- General Use Product
 - General Certificate of Conformity (GCC)
 - Does not require third party testing
 - Applies to adult apparel
- Children's Product
 - Children's Product Certificate (CPC)
 - Requires third party testing by a CPSC-accepted laboratory for all regulations to which the product is subject
 - Applies to all children's apparel

Issued by manufacturer (if domestic) or importer of record. An importer can rely on testing performed by a manufacturer to issue a certificate as long as due care is exercised and all CPSC requirements are met.

Chemical Content

- Lead Content (FHSA)
 - Products designed and intended primarily for children 12 years or younger
 - Concentration may not exceed 100 ppm
 - Applies to children's apparel and sleepwear (zippers, buttons, etc.)
- Lead in Paint and Surface Coatings (CPSA)
 - Products designed and intended primarily for children 12 years or younger and some general use furniture
 - Concentration may not exceed 90 ppm
 - Applies to children's general apparel and sleepwear (screenprints)
- Phthalate Content (CPSA)
 - Children's toys and *child care articles* (products used to facilitate sleeping and feeding for children 3 years or younger)
 - Only certain phthalates
 - Concentration may not exceed 0.1 %
 - Applies to children's sleepwear and some apparel (bibs)

Third party testing by a CPSC-accepted laboratory is required

Chemical Content

- Determinations

- Lead

- §1500.91: Certain materials will not exceed lead limits.
 - Textiles made from certain fiber types, dyed and undyed (including some prints).

- Phthalates

- §1308.2: Certain plastics with specified additives will not exceed the specified phthalates content limits.
 - Includes polypropylene and polyethylene.

Chemical Content

Girl's Clothing Recalled by My Michelle Due to Risk of Lead Exposure



Name of product:

Girl's Tops

Hazard:

The jewelry and decorative trim attached to the girl's garments contain high levels of lead. Lead is toxic if ingested by young children and can cause adverse health effects.

Remedy:

Refund

Recall date:

April 12, 2011

Recall number:

11-195

Hazard:

The jewelry and decorative trim attached to the girl's garments contain high levels of lead. Lead is toxic if ingested by young children and can cause adverse health effects.

Tracking Labels

For products designed and intended primarily for children 12 years or younger a permanent, distinguishing mark (tracking label) must:

- Be affixed to the product and its packaging, visible and legible.
- Provide certain identifying information.
 - Manufacturer or private labeler name;
 - Manufacturing location and date of manufacture;
 - Detailed information on manufacturing (ex. Batch, run, lot or style number) or other identifying characteristics; and
 - Any other information to facilitate ascertaining the specific source of the product.



Small Parts

- Intended to prevent deaths and injuries to children from choking
- Products intended for children under 3 years
- Children's Clothing and Accessories
 - Fabrics and buttons are exempted from small parts regulations and testing requirements
 - 16 C.F.R. § 1501.3(d)
 - If buttons are not secure due to poor construction they may pose a substantial product hazard and need to be reported to the CPSC

Small Parts

Home » Recalls »

Precious Cargo Recalls Infant One-Piece Garments Due to Choking Hazard



Recalled Precious Cargo one-piece garment

Name of product:

Precious Cargo infant one-piece garments

Hazard:

The snaps on the one-piece garments can detach, posing a choking hazard to young children.

Remedy:

Refund

Recall date:

August 6, 2015

Recall number:

15-208

Hazard:

The snaps on the one-piece garments can detach, posing a choking hazard to young children.

Adult and Children's Apparel

Summarization of CPSC Apparel Requirements

Adult Apparel

- GCC
- Must meet Clothing Textile (or Vinyl Plastic Film) requirements.
- Enforcement policy (March 2016)
 - Adult apparel exempt from testing does not require a GCC to be issued.
 - <https://www.cpsc.gov/content/cpsc-approves-adult-apparel-enforcement-discretion-to-reduce-paperwork-requirement-on>

Children's Apparel

- CPC and third party testing by a CPSC-accepted laboratory
- Clothing Textile (or Vinyl Plastic Film)
- Lead content (zippers, buttons)
- Lead in paint or surface coating (screen printing)
- Phthalate (bibs)
- Tracking label
- Drawstring; does not require certification, but standard must be met.

Children's Sleepwear

- CPC and third party testing by a CPSC-accepted laboratory
- Children's Sleepwear (or Clothing Textiles/Vinyl Plastic Film)
- Lead content (zippers, buttons)
- Lead in paint or surface coating (screen printing)
- Phthalate (feet on pajamas; only under 3)
- Tracking label

Links to Apparel Resources

Resources

Links

- Regulatory Robot
 - <https://www.cpsc.gov/Business--Manufacturing/Regulatory-Robot/Safer-Products-Start-Here>
- Regulations
 - <https://www.cpsc.gov/Regulations-Laws--Standards/Statutes/Flammable-Fabrics-Act/>
- Laboratory Manuals
 - 1610
 - (English) https://www.cpsc.gov/s3fs-public/Flammability%20of%20Clothing%20Textiles%20Test%20Manual_1610.pdf
 - (Chinese) https://www.cpsc.gov/s3fs-public/Flammability-of-Childrens-Sleepwear-Test-Manual_1615_16-6-Ch.pdf?Qc5b50jB2AmTEfKBj7SzepQWRsqLDN2c
 - 1615/1616
 - (English) https://www.cpsc.gov/s3fs-public/Flammability%20of%20Children%27s%20Sleepwear%20Test%20Manual_1615_1616.pdf
 - (Chinese) https://www.cpsc.gov/s3fs-public/Laboratory-test-manual-16-CFR-Part-1610-Ch.pdf?MhtbUWNy6jmOPx9b6f.RErt.n.2n_d_h

Drawstrings in Children's Upper Outerwear Must Conform to ASTM F 1816

Upper Outerwear

- Is defined by CPSC as clothing such as jackets, ski vests, anoraks, and sweatshirts that generally are intended to be worn over other garments.
- Includes lightweight outerwear that is appropriate for use in warmer climates.
- Excludes underwear, inner clothing layers, pants, shorts, swimwear, dresses and skirts.

Head/Neck Drawstrings

- Drawstrings are not allowed at the hood and neck area on children's upper outerwear in sizes 2T through 12.
- Children's upper outerwear should use alternative closures such as snaps, buttons, and Velcro.
- Fully retractable drawstrings are permitted and are exempt from the drawstring requirements. They must completely and automatically retract into the garment after being adjusted and released.

Waist/Bottom Drawstrings

- Drawstrings at the waist or bottom of upper outerwear in sizes 2T to 16 cannot exceed 75mm (3 inches) in length outside drawstring channel.
- Cord locks, knots, toggles, or other attachments that could pose a catch hazard at the free ends of drawstrings are prohibited.
- Drawstrings that are one continuous string must be bar tacked or stitched through to prevent the drawstring from being pulled through its channel.

Notify suppliers of these requirements and do not manufacture upper outerwear with drawstrings for shipment to the United States.



Avoid manufacturing children's clothing that will be refused entry or recalled in the United States

- Check garment prototypes *before manufacture* against all appropriate standards, even designs requested by U.S. importers and retailers. Make modifications for incorrectly designed products to meet U.S. standards.
 - ⇒ *Third Party Testing*
 - ⇒ *Children's Product Certification*
 - ⇒ *Flammability Requirements for General Wearing Apparel*
 - ⇒ *Flammability Requirements for Children's Sleepwear*
 - ⇒ *Lead Content Requirements*
 - ⇒ *Lead in Paint Surface Coating Requirements*
 - ⇒ *Phthalates Requirements*
 - ⇒ *Drawstring Requirements in Children's Upper Outerwear*

- Tracking information is required on all children's clothing. The information must be permanent. Hangtags and adhesive labels are not considered permanent.
- Know your supply chain and keep your suppliers informed of technical requirements and your expectations.
- ALL products that have a defect and may pose a hazard to consumers or create an unreasonable risk of injury or death must be reported to the CPSC immediately by the importer or retailer under U.S. law.

This is a simple summary that highlights some children's clothing requirements and standards and does not replace the requirements found in applicable U.S. laws and regulations. It does not include all of the details in those requirements. Please refer to the regulations and requirements on the CPSC website www.cpsc.gov. This summary has not been reviewed or approved by the Commission.

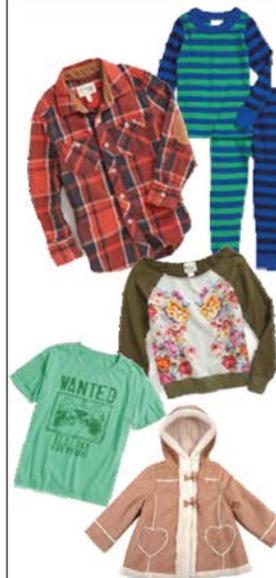


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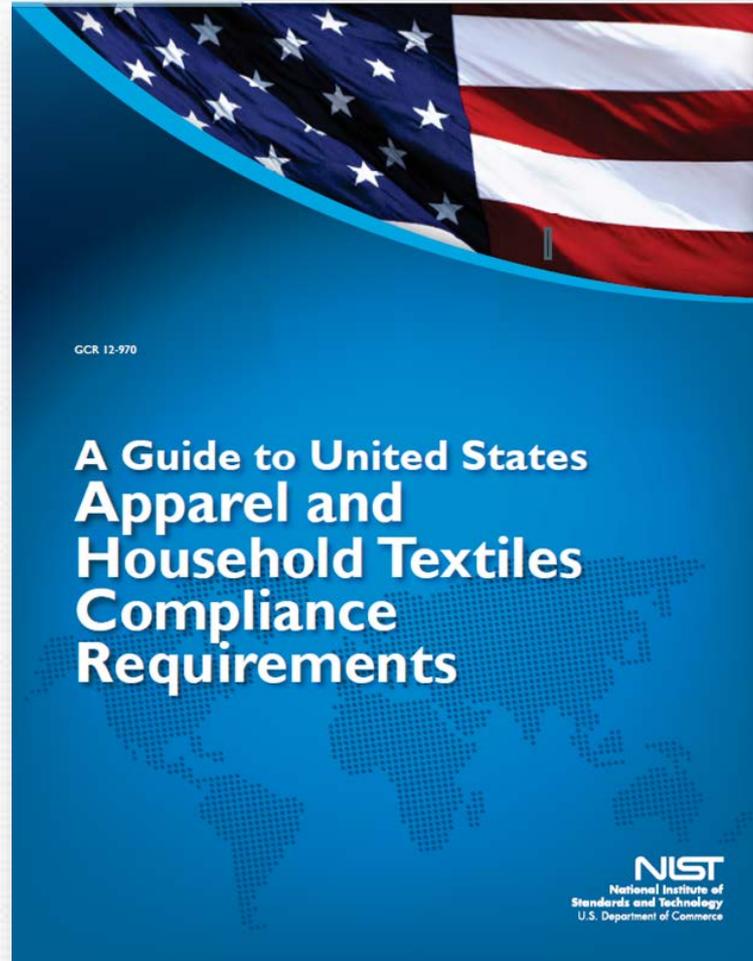


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Children's Clothing Requirements in the United States



www.CPSC.gov



<https://www.nist.gov/publications/guide-united-states-apparel-and-household-textiles-compliance-requirements>

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