



**If You Make, Import, Distribute or Sell Clothing:
An Important Fire Safety Message
About the Flammability Hazard of Your Products
December 2004**

Background

According to fire injury data from the US Consumer Product Safety Commission (CPSC), more than 4,000 consumers a year suffer severe burn injuries and an estimated 150 or more die when their clothing ignites from even minimal exposure to ordinary household ignition sources. In most cases, these clothing and apparel items had met the requirements of the federal standard for the flammability of clothing textiles. A long record of burn injury lawsuits has shown that complying with the federal standard does not protect manufacturers, distributors or retailers from severe penalties in court cases involving clothing ignitions.

As early as 1967 and several times thereafter, US government scientists, government reports and others have documented weaknesses and inadequacies of the existing Federal Standard for the Flammability of Clothing Textiles (see references at the end of this document). The CPSC is currently examining certain procedural issues and changes relating to this standard, namely 16 CFR Part 1610.

The National Association of State Fire Marshals (NASFM), whose members include the most senior fire officials in the states, has encouraged the CPSC to consider modernizing and strengthening the antiquated standard. This result would mean safer and better clothing for consumers in the future. But, in the meantime, there are things you can do to offer greater protection to consumers and to demonstrate that you have taken steps to reduce the flammability and liability risks associated with your products.

NASFM, with guidance from its Science Advisory Committee (SAC), is committed to providing information and education on public fire safety and fire risk reduction. NASFM's SAC is a voluntary panel of scientists and engineers from government, academia and industry with

extensive experience in the fire performance of materials and products. The SAC, in consort with NASFM's Board of Directors, offers the following recommendations to manufacturers, importers, distributors and retailers of textiles and wearing apparel to consumers.

Actions You Can Take

- The Standard for the Flammability of Clothing Textiles, 16 CFR Part 1610, enforced by the CPSC under the Flammable Fabrics Act (FFA), is an absolute minimum standard that is more than 50 years old (it was part of the original FFA passed by Congress in 1953). It was designed primarily to remove only the most dangerous and intensely flammable textiles from the clothing market. The vast majority of textile products subject to the test specified in this standard (also known as the CS-191-53, 45-degree test) pass and are rated "Class 1 normal flammability." This result erroneously implies that they are "safe" to use in clothing.

The concept of "normal flammability" in the context of this test is very misleading as a measure of safety. Indeed, "normal flammability" is merely a term defined by this specific test method and regulation; it does not, however, equate to what NASFM considers acceptable flammability for clothing and wearing apparel. Newspaper and tissue paper pass this test. The test relies on a one-second exposure to a tiny, needle-like flame in a test setup that makes the fabric very difficult to ignite. Therefore, one should not be misled into thinking that a "does not ignite" result under these artificial conditions implies that a fabric will not ignite in real-world conditions. Many times, it will – with tragic results.

Action Item: Be advised that the existing federal general wearing apparel standard does not protect consumers from clothing fires.

- Manufacturers, importers, distributors and retailers who want to determine if their products pose an unreasonable risk of fire should assess them according to the test method specified in 16 CFR Parts 1615-1616, known as the "vertical strip test" used in the Children's Sleepwear Flammability Standard. This is a more rigorous test for fabrics used in clothing, with a larger ignition source than general wearing apparel flammability standard 16 CFR Part 1610. If the products you manufacture or sell pass this test, you will have reasonable assurance that they are safer from fire than the typical fabric that is considered "Class 1 normal flammability." Keep complete records of all test results, since CPSC accepts test results from more stringent tests to demonstrate conformance with 16 CFR Part 1610.

Action Item: Test your products to a higher standard of fire safety.

- Fabrics that fail the Children’s Sleepwear Flammability test method and standard specified in 16 CFR Parts 1615-1616 can be dangerous in many garment and clothing designs. These fabrics should not be sold as clothing or for use in clothing without providing complete consumer information and a legally adequate warning label to inform the ultimate consumer and wearer. Certain garments are known to be high-hazard designs, such as loose-fitting, full-cover and over-the-head designs. This is especially true for adult sleepwear such as nightgowns, robes and housecoats; girl's dresses and children’s playwear; t-shirts; or other looser-fitting apparel.

You should consider using safer choices of fabrics and offering the consumer an informed choice. There are high-quality flame retardant (FR) cotton fabrics, and other textiles such as nylon or polyester, that can be designed and manufactured with no loss of comfort or design choices to consumers.

Action Item: If your product fails the children’s sleepwear “vertical strip test,” consider safer alternatives.

- If you choose to accept the risks and potential liability by utilizing flammable fabrics, especially in producing, marketing or selling unsafe garments, you have a legal duty to warn purchasers and consumers of the potential flammability of high-fire-hazard garments. Consumers are not generally aware of the fact that almost all everyday clothing is extremely easy to ignite, and, once ignited, burns with such intensity that the wearer will likely sustain serious burn injury.

We recommend that all high-fire-hazard clothing, and fabrics that may be sold to be made into garments, carry a prominent warning label. One example of note is that used by L. L. Bean, Inc., on its cotton flannel sleepwear. It states, “*NOTICE. Certain products can burn if exposed to heat or flame. Fabrics with a fuzzy surface or open weave are more easily ignited. Use caution near open flames, candles, cigarettes, kitchen ranges, fireplaces, or other sources of intense heat, particularly if fabric softeners are used on this product.*” Other garment manufacturers voluntarily labeling their clothing and apparel include Pendleton Mills, Lanz of Salzburg, Eileen West and others.

For work wear garments and clothing, Carhartt coats and jackets being sold by Sears & Co. and others, plus Big Smith sold at Home Depot, also carry flammability warning labels.

An alternate and more demonstrative warning label may better alert consumers. For example: “*Warning: This garment, similar to many that are made of cotton and other fabrics used in ordinary clothing, may ignite and burn rapidly if exposed for as little as a few seconds to a flame as small as a birthday candle. The result can be serious burn injury or even death. Please be careful around sources of fire, heat or flame to avoid the possibility of clothing ignition.*”

Action Item: Use flammability hang tags, warning labels and point-of-sale information to inform consumers of relative fire risk and allow them to make a more informed choice in wearing apparel fabric and clothing.

Select References

1. “Wearing Apparel: Notice of Finding that Flammability Standard or Other Regulation May Be Needed and Institution of Proceedings,” Department of Commerce, Office of the Secretary [15 CFR Part 7]. *Federal Register*, Vol. 33, No. 207, October 23, 1968, p. 15662.
2. “Investigation of Fabrics Involved in Wearing Apparel Fires,” American Academy of Pediatrics, Comm. on Accident Prevention, Samuel E. Southard, Chair, in *Pediatrics*, Vol. 34, November 1964, pp. 728-733.
3. “Flammable Fabrics,” Third and Fourth Annual Reports by the US Department of Health, Education and Welfare,” FY 1971, published in 1972, and FY 1972, published in 1973 respectively.
4. “Hearings Before the Consumer Subcommittee of the Committee on Commerce, U.S. Senate, First Session on S.1003 to Amend the Flammable Fabrics Act: To Increase The Protection Afforded Consumers Against Injurious Flammable Fabrics,” May 3, 4, and 5, 1967. U.S. Govt. Printing Office, 1967, pp. 83-93, 158-161, et al.
5. “LBJ Signs Flammability Act: [both he and] Surgeon Assails It as Weak,” News report in *Women’s Wear Daily*, December 15, 1967, p. 32. This 1967 amendment to the Flammable Fabrics Act changed some administrative responsibilities but did not change the minimum requirements of the 1953 standard.
6. “Flammable Fabrics Act Protection: Fire Resistants v. Industry Resistance,” Huali Chai Mullins and Alexis Panagakos, *The George Washington Law Review*, March 1971, Vol. 39, No. 3, pp. 608-632.

7. “Clothing ANPR – Comments on 16 CFR Part 1610, U.S. Consumer Product Safety Commission,” by Steven M. Spivak, PhD, Chartered Textile Technologist, Fellow of the Textile Institute and Professor Emeritus, Department of Fire Protection Engineering, University of Maryland, November 12, 2002, submission to the US Consumer Product Safety Commission on ANPR to Amend the Standard for the Flammability of Clothing Textiles, 16 CFR Part 1610. <http://www.cpsc.gov/library/foia/foia03/pubcom/clothing.PDF>
8. “Comments on Standard for Flammability of Clothing Textiles; Advance Notice of Proposed Rulemaking, *Federal Register*, September 12, 2002,” Donald Bliss, President, National Association of State Fire Marshals (November 18, 2002), submission to the US Consumer Product Safety Commission on ANPR to Amend the Standard for the Flammability of Clothing Textiles, 16 CFR Part 1610. <http://www.cpsc.gov/library/foia/foia03/pubcom/clothing.PDF>
9. “Clothing ANPR,” letter from retired CPSC Chief Engineer for Fire Safety James F. Hoebel (November 12, 2002), submission to the US Consumer Product Safety Commission on ANPR to Amend the Standard for the Flammability of Clothing Textiles, 16 CFR Part 1610. <http://www.cpsc.gov/library/foia/foia03/pubcom/clothing.PDF>.

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