

U.S. Flammability Requirements for Upholstered Furniture

Podcast Script

Slide 1

The slides used in this podcast are not a comprehensive statement of legal requirements or policy. Thus, you should not rely upon the information in the slides 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.

Slide 3

Hello everyone. Today, I am going to talk to you about the CPSC's requirements for upholstered furniture.

On December 27, 2020, the U.S. Congress passed the COVID-19 Regulatory Relief and Work from Home Safety Act. The Act included a provision that adopted California Technical Bulletin 117-2013 as a federal requirement. As a result, the CPSC has responsibility of enforcing a federal regulation for the flammability of upholstered furniture under 16 CFR part 1640.

The regulation has two effective dates. The first is June 25, 2021, for flammability requirements. The second is June 25, 2022, for labeling requirements. The requirements apply to upholstered furniture manufactured, imported, or reupholstered for U.S. consumers.

Slide 4

Hi, my name is Sylvia Chen, and I want to welcome you to this podcast presentation today

Slide 5

As you heard, design of safe products at the outset is critical. CPSC is a United States federal government agency charged with protecting the public from unreasonable risks of injury or death associated with the use of consumer products under the agency's jurisdiction. We have developed this podcast series to not only inform on regulations, standards, and other safety requirements, but also to emphasize the importance of designing products with safety considerations in mind and best practices for enhancing safety in a variety of common consumer products.

Slide 6

The series covers common consumer products and their requirements for keeping consumers safe. In this podcast series, you can expect to learn about the key hazards and risks of the product, important design and manufacturing considerations, regulations and standards that

CPSC uses to ensure product safety, best practices you can employ, and what resources are available to assist you in understanding and implementing the requirements.

The podcasts include English and Chinese slide decks, and Chinese narration to make this important safety information as accessible as possible. Additionally, CPSC has established a dedicated email box where listeners can send in any questions at their convenience in English or Chinese. Our staff will monitor and respond to your questions.

Slide 8

To aid your understanding of the federal flammability requirements, I am going to give you a brief overview of the following topics:

- First, I am going to talk a little bit about the regulation, 16 CFR Part 1640, and give you some background information on it.
- Next, I am going to go over the definition of “upholstered furniture” as it is written in 16 CFR part 1640 and show you some examples of furniture pieces that fall under this regulation.
- Then, I am going to go over the labeling requirements under the regulation.
- I am also going to briefly describe the testing requirements.
- After that, I am going to give you some information on children’s upholstered furniture in case your product is, or could be, children’s upholstered furniture.
- Finally, I will finish my presentation by giving you some CPSC business resources to help your understanding of this regulation.

Slide 9

During a house fire, there can be just minutes to escape before a home is engulfed in flames. Upholstered furniture is frequently the first thing to ignite and present a significant source of fuel for fires. According to the CPSC’s most recent Residential Fire Loss Estimates Report, upholstered furniture is the first item in the CPSC’s jurisdiction that is ignited in the largest number of fatal fires in the period 2016 through 2018.

In fact, from 2016 through 2018, about 350 deaths and 550 injuries were associated with fires where upholstered furniture was the first item ignited each year. This is 15 percent of the estimated annual average of total deaths associated with residential structure fires for the same period. Even more deaths and injuries were associated with upholstered furniture where it was not the first item ignited but contributed to the fuel load and fire.

Slide 10

I am now going to give you a brief overview of the federal flammability regulation for upholstered furniture, also known as **16 CFR Part 1640**. Please note, throughout the webinar I

will give you a general overview of the regulation's requirements and will provide more detailed resources at the end of the presentation.

Slide 11

In December 2020, U.S. legislation mandated nationwide compliance with "California Technical Bulletin 117-2013" (or TB 117-2013), which is California's flammability standard for upholstered furniture. The United States also added a new federal requirement for labeling.

The federal regulation covering flammability and labeling of upholstered furniture can be found at 16 CFR part 1640. During this presentation, I will sometimes refer to the regulation as "16 CFR part 1640" for brevity.

Remember that the federal regulation has two effective dates. The first is June 25, 2021 for flammability requirements. The second is June 25, 2022 for labeling.

Slide 12

TB 117-2013 was updated and published by California in 2013. Its full title is "Requirements, Test Procedure and Apparatus for Testing the Smolder Resistance of Materials Used in Upholstered Furniture."

The performance requirements in TB 117-2013, which are now required in the federal regulation at 16 CFR 1640, are small-scale burn tests intended to address fires caused by smoldering ignition. They rely heavily on ASTM E1353-08a for their test methods.

Slide 13

The federal regulation sets forth the requirements, test procedure, and apparatus for testing the smolder resistance of materials used in upholstered furniture from hazards associated with smoldering ignition (for example, a cigarette). 16 CFR part 1640 codifies those requirements.

It is also important to note that 16 CFR part 1640 refers specifically to TB 117-2013. This means that any future changes or updates to TB 117-2013 will not change the requirements for 16 CFR part 1640. Therefore, individuals who want to know the performance (or flammability) requirements for 16 CFR part 1640 should make sure they refer to TB 117-2013, which was published in 2013, and must not rely earlier revisions or any subsequent version. PDF copies of TB117-2013 are available for free, and at the end of this presentation, we'll include a link for downloading the correct version.

Slide 14

The federal regulation preempts other U.S. jurisdictions from establishing or continuing in effect their own flammability regulations designed to protect against the risk of fire from upholstered furniture

However, please note that 16 CFR part 1640 does not preempt any state or local requirement that concerns other risks apart from flammability associated with upholstered furniture.

Slide 15

Now that we have talked a bit about the federal regulation's background, I will talk a bit about the regulation's definition of "upholstered furniture" and give you a few examples of which products may or may not be considered "upholstered furniture" under the regulation.

Slide 16

The first item I want to discuss in this section is the products that are covered in 16 CFR part 1640.

The regulation applies to upholstered furniture made of fabric or a related material that is used in homes or in public where consumers will customarily use the upholstered furniture. The regulation's definition of "upholstered furniture" also specifically refers to **seating** furniture. Examples include upholstered couches, chairs, and benches.

Slide 17

16 CFR part 1640 does not cover the following products:

- Bedding products
- Mattress and mattress pads
- Mattress foundations
- Furniture meant for outdoor use only
- Physical fitness/exercise equipment such as bench presses
- And products obtained by a written prescription from a healthcare professional

Slide 18

Under 16 CFR part 1640, upholstered furniture is an article of **seating** furniture that:

- Is intended for indoor use; and
- Is movable or stationary; and
- Is constructed with an upholstered seat, back, or arm; and

Slide 19

- Is made or sold with a cushion or pillow, whether or not that cushion or pillow is attached or detached to the article of furniture, or is stuffed or filled, or able to be stuffed or filled, in whole or in part, with any material, including a substance or material that is hidden or concealed by fabric or another covering, including a cushion or pillow belonging to, or forming a part of, the article of furniture; and

Slide 20

- Together with the structural units of the article of furniture, any filling material, and the container and covering with respect to those structural units and that filling material, can be used as a support for the body of an individual, or the limbs and feet on an individual, when the individual sits in an upright or reclining position.

Slide 21

Here are some examples of common pieces of upholstered furniture. As you can see, they are all seating furniture, intended for indoor use, and are constructed with some sort of upholstered seat, back, or arm.

Slide 22

Now that we have gone over the definition of “upholstered furniture,” I want to go over the definition of “bedding products” so you do not confuse the two, because bedding products are not covered by the upholstered furniture regulation.

A bedding product is:

- An item that is used for sleeping or sleep-related purposes.
- Any component or accessory with respect to an item that is used for sleeping or sleep-related purposes, without regard to whether the component or accessory, as applicable is used alone, along with, or contained within a sleeping or sleep-related item.

“Foundations” and “mattresses” are defined in Section 1633.3 of title 16 CFR and have their own specific requirements. If you want to learn more about them, please visit the URL linked on this slide.

As a final note on bedding products, note that most upholstered bed frames and upholstered head boards are not considered upholstered furniture subject to 16 CFR part 1640. However, upholstered bed frames that incorporate an upholstered bench or other upholstered seating surface outside of the mattress may be considered covered by the Standard for the Flammability of Upholstered Furniture regulation. If you have doubts about a specific design that you’re making, you can always reach out to CPSC for feedback on your specific item. Contact information will be provided at the end of this presentation.

Slide 23

Now that we have gone over the definitions in 16 CFR part 1640, I am going to discuss the regulation's labeling requirement.

Slide 24

Starting on June 25, 2022, all upholstered furniture manufactured, imported, or reupholstered for U.S. consumers must have a permanent label with the following statement:

- “Complies with U.S. CPSC requirements for upholstered furniture flammability.”

This label must be permanently located on the product.

Keep in mind that products without correct labeling can be delayed for entry at port while CPSC investigators examine whether there may be a potential hazard. It is important to understand thoroughly the compliance requirements, including proper labeling, to provide important information to consumers and to ensure smooth entry into the United States.

We recommend locating the label in a conspicuous place on the product so that consumers see it.

Slide 25

The text on the label should be at least 1/8-inch high (or 0.32 cm) and not smaller than any other text on the label.

The label's text should be black with a white background and surrounded by a black border. The statement must be in English on the front of the label. These recommendations are to make the label appear more legible, conspicuous, and prominent, ensuring that the information is accessible to consumers.

Finally, I want to emphasize that the federal labeling requirement is in addition to any other labeling requirements, including the state of California's labeling requirements. The 16 CFR part 1640 label can be a separate label, or it can be added to the bottom of an existing California TB 117-2013 label required by SB-1019.

Slide 26

Here are two examples of what the federal label should look like. On the left, you can see an example of the separate label with black text, a white background, and a black border. On the right, at the bottom of the label beneath California's current TB 117-2013 label content, you can see the same statement required by CPSC in black text, on a white background, and surrounded by a black border.

Slide 27

Now, I am going to talk about record keeping requirements under 16 CFR part 1640.

16 CFR part 1640 does not require a general certificate of conformity or other documentation. Instead, the federal permanent label will operate as a declaration of conformity with the flammability regulation.

However, while the regulation does not require recordkeeping beyond the permanent label, it is a best practice to maintain testing and other records for your product, for at least the time your product remains in production.

Slide 28

Now I am going to talk about the federal testing requirements that come directly from California TB 117-2013, which again, is linked at the end of this presentation in the “Resources” section.

Slide 29

The CPSC federally required tests are designed to assess upholstered furniture’s resistance to combustion after being exposed to smoldering cigarettes under specific conditions.

These tests apply to a few components of upholstered furniture, including the furniture’s:

- Cover fabrics
- Barrier materials
- Resilient filling materials
- Decking materials.

Slide 30

The tests in TB117-2013, that are required under 16 CFR part 1640, are designed for components.

This means that the upholstered furniture, as a finished assembly, is not tested. Instead, the individual components are tested. There are various ways you can create a compliant design for your product, depending on which components of the furniture comply.

On the screen are three scenarios that will result in a compliant piece of furniture:

- A product with a compliant cover fabric over a compliant filling material is a compliant construction.
- A product with any cover fabric over a compliant barrier will also meet the conditions for a compliant construction.

- A product with a compliant cover fabric over a compliant barrier material and any filling material will also result in a complaint construction.

Keep in mind that the examples used here represent general approximations and do not represent an exhaustive list of compliant constructions. We will discuss compliant constructions again later in the presentation, but please to refer to the text of TB 117-2013 for a detailed description of each component's test method, the places that a barrier must be located for it to be compliant, and the various paths that will result in a compliant design.

Slide 31

Now, I am going to give some general information on the various tests required by 16 CFR part 1640; and remember, they are found in California TB 117-2013.

Each of the required tests involves a miniature bench-scale assembly consisting of the component to be tested, along with other specified materials. On the right, is a mockup of the bench-scale test.

The assembly is exposed to a lighted cigarette as its ignition source.

The test fails, if:

- the mock-up test specimen continues to smolder after 45 minutes.
- a char length greater than a specified amount for each type of component test is measured.
- or the mock-up test specimen transitions to open flaming.

Slide 32

The first test I am going to discuss is the cover fabric test. Cover materials refer to the outermost layer of fabric or material that is used to enclose the main support system or upholstery material in a piece of furniture. Note that although we use the phrase "cover fabric," the tested material may be a leather, vinyl, or other nonwoven outer upholstery covering.

Slide 33

The cover fabric test method measures the tendency of cover fabrics to smolder and contribute to fire spreading when subject to a smoldering ignition source like a cigarette.

For furniture with cover fabrics that pass this test, the first layer of filling materials located below the cover fabric must also meet the test requirements for the Resilient Filling Material Test, unless an appropriate barrier is present.

Slide 34

The next test I will talk about is the barrier materials test. The barrier material refers to the first layer of material that lies under the cover fabric to reduce smoldering propensity.

Slide 35

Cover fabrics that fail the cover fabric test can be used if the piece of furniture uses a compliant barrier material with its design. The barrier material must cover all sides and the top of the seating cushions. The exception to this rule is non-reversible and non-detachable seating cushions. These do not require the use of the barrier material on the underside of the seat cushion.

Slide 36

Now, let's discuss the resilient filling material test.

Resilient filling material refers to material such as batting, pads, or loose fills.

Resilient filling materials that do not pass the resilient filling material test can be used in upholstered furniture if a compliant barrier material is used between the cover fabric and the filling materials.

Slide 37

The final test is the decking material test. The deck is the upholstered support under the seat cushion in a loose seat construction. The decking material test applies to the resilient material beneath the deck surface. This test measures the tendency of decking materials to smolder when subjected to a smoldering ignition source, such as a cigarette.

For decking materials that pass this test, the first layer of filling materials located below the decking material should also meet the test requirements in the Resilient Filling Material Test.

Slide 38

This table shows various combinations for compliant upholstered furniture constructions. As mentioned earlier, there are multiple ways to construct furniture that meets the requirements of 16 CFR part 1640.

The table is read in columns from left to right. For example, in column three, a piece of upholstered furniture that has a compliant cover fabric and a compliant resilient filling material, but any barrier material will be considered a compliant construction. In column five, a piece of furniture that has a compliant cover fabric and a compliant barrier, but any resilient filling material, is still compliant.

Please note that this is a non-exhaustive chart for illustration purposes only. Please see the Standard for the Flammability of Upholstered Furniture for more detailed information.

Slide 39

This table shows examples of noncompliant constructions of upholstered furniture and is read the same way as the previous table. For example, in column three, the piece of furniture is not compliant because its barrier material and resilient filling material are not compliant.

Once again, this is a non-exhaustive table, so please check the official regulation for more information.

Slide 40

Now, let's discuss requirements for children's upholstered furniture under 16 CFR part 1640.

Slide 41

Both general-use upholstered furniture and upholstered furniture intended to be used by children must comply with 16 CFR part 1640. However, the requirements of 16 CFR part 1640 are not subject to the usual third-party testing and certification requirements of Section 14(a) of the Consumer Product Safety Act (CPSA).

This means U.S. manufacturers and importers of children's upholstered furniture products do not have to certify, in a written Children's Product Certificate (CPC) based on test results from a CPSC-accepted laboratory, that their children's products comply with 16 CFR part 1640. This is for 16 CFR part 1640 testing only.

For upholstered children's furniture, there is still a requirement to certify, in a written CPC, based on test results from a CPSC-accepted laboratory, that the product complies with all other applicable children's product safety rules. Please visit the link on the screen if you would like to learn more about other children's product safety rules that may apply to your product.

Slide 42

Let's talk about durable infant or toddler products and the federal upholstered furniture flammability regulation.

Durable infant or toddler products that meet the definition of "upholstered furniture" must comply with 16 CFR part 1640's flammability and labeling requirements. We'll discuss the requirements for products in this category, such as upholstered children's folding chairs and upholstered children's folding stools, in more detail on the next slides.

However, many types of durable infant and toddler products are specifically exempt from the Standard for the Flammability of Upholstered Furniture. This means that the product types listed at the bottom of the screen do not need to meet the requirements of 16 CFR part 1640, even if they otherwise seem like they would meet the definition of “upholstered furniture” that we discussed earlier.

To learn more about these and other exemptions, please visit the URL linked at the bottom of the screen.

Slide 43

Now, let’s discuss more about 16 CFR part 1640 and children’s folding chairs and stools.

Children’s folding chair and stools that meet the definition of “upholstered furniture” must comply with the following:

- The flammability and labeling requirements of 16 CFR part 1640
- Third party testing for lead in surface coatings if there are surface coatings and/or total lead content if there are applicable accessible materials
- Third party testing for the durable infant and toddler product requirements in 16 CFR part 1232, Safety Standard for Children's Folding Chairs and Stools
- The requirements for consumer registration of durable infant or toddler products (see 16 CFR part 1130).
- Children’s Product Certification (CPC)
- Tracking labels on the product and on the packaging

Please visit the CPSC’s webpage on children’s folding chairs and stools for more information.

Slide 44

In conclusion, children’s products that meet the definition of “upholstered furniture” must comply with the following:

- The flammability and labeling requirements of 16 CFR part 1640
- Third party testing for:
 - lead in surface coatings, if there are surface coatings and/or total lead content if there are applicable accessible materials,
 - and any other requirements applicable to the specific product.
- Children’s Product Certification (CPC)
- Tracking labels on the product and on the packaging

Please visit our Children's Product education page linked on the screen for more information.

Additionally, review your product situation to identify whether CPSC's general certificate of conformity requirements may apply to you and to identify an appropriate laboratory for testing. Please review to previous episodes in this series for more information on certification and laboratory topics.

Slide 45

We hope you enjoyed this podcast. If you have any questions on the presentation, please do not hesitate to submit your questions in English or Chinese to the mailbox mentioned earlier, CPSCinChina@cpsc.gov (show on screen). This mailbox is routinely monitored.

Slides 46

We also wish to remind viewers that CPSC has many technical documents and resources available in Chinese. The conclusion of this presentation provides many links to resources viewers may find useful.

Slide 52-53

We encourage viewers to be sure to check out CPSC's regulatory robot, available in English, Chinese, and several other languages. The regulatory robot is an automated tool that can greatly facilitate identifying safety requirements for a large number of products. Many companies have found this tool to be extremely helpful.