



**MEMORANDUM**

May 23, 2016

**To:** Honorable Jared Huffman  
Attention: Logan Ferree

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**Subject:** U.S. Flammability Standards: Focus on Children's Car Seats

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You asked for an analysis of federal flammability standards, with a focus on children's car seats. This memorandum reviews those standards and discusses relevant regulation by the National Highway Traffic Safety Administration (NHTSA), Consumer Product Safety Commission (CPSC), and the U.S. Environmental Protection Agency (EPA). (In this memorandum, child safety seats and child restraint systems used in motor vehicles are referred to as children's car seats.) As you requested, this memorandum also provides a general background on federal flammability standards, which affect a range of consumer products.

## Flammability Standards<sup>1</sup>

*Flammability* is the ability of a substance to burn or ignite, causing fire or combustion. A *flammability standard* is a test or protocol used to measure the propensity of an object to ignite or burn. Essentially, flammability standards attempt to recreate — within a controlled test chamber — a real-world fire scenario, both with regard to the ignition source (for example, an open flame or a smoldering cigarette) and the material, object, or product being tested. Typically, the degree of difficulty required to cause the combustion of a material determines whether it “passes” or “fails” a flammability standard.

There are flammability standards and tests for a variety of products and types of materials including: apparel, furniture, mattresses, plastic in devices and appliances, building and construction materials, hazardous materials, and others. Flammability standards can be developed and enforced on a federal, state, or local level. Additionally there are flammability standards developed by the private sector (by standards organizations or by industry groups) that can be followed voluntarily by industry or adopted as a mandatory standard by law on a federal, state, or local level.

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<sup>1</sup> This section of the memorandum was prepared by Lennard G. Kruger.

## Flammable Fabrics Act

The first federal flammability standards related to consumer products were established in 1953 by the Flammable Fabrics Act (FFA, 15 U.S.C. §§1191 et seq.). The Act was passed in response to a series of deaths and injuries resulting from the ignition of brushed rayon sweaters (commonly referred to as “torch sweaters”) and children’s cowboy chaps. These articles of clothing had a propensity to burst into flame from accidental contact with a lighted cigarette, a spark from a fireplace, a lighted match, or other ignition sources.

FFA prohibits “the introduction or movement in interstate commerce of articles of wearing apparel and fabrics which are so highly flammable as to be dangerous when worn by individuals.” The Act originally placed enforcement authority with the Federal Trade Commission. Section 4 of the Act specified using a preexisting Department of Commerce flammability standard called Commercial Standard 191-53. This standard consists of exposing a piece of fabric at a 45° angle to a flame for one second. The fabric passes or fails the standard based on how quickly the flame proceeds five inches up the fabric. The test specified in the standard only detects extremely flammable items; thus many less flammable but possibly dangerous fabrics were left unregulated by the Act.

In 1967, Congress enacted P.L. 90-189, which amended the FFA, expanding its coverage to include interior furnishings as well as paper, plastic, foam and other materials used in wearing apparel and interior furnishings. Responsibility for administering the FFA was transferred to CPSC in 1973. Under the FFA, CPSC has the authority to issue and enforce mandatory flammability standards. Standards have been established for the flammability of clothing textiles (16 CFR 1610); vinyl plastic film used in clothing (16 CFR 1611); carpets and rugs (16 CFR 1630, 1631); children's sleepwear (16 CFR 1615, 1616); and mattresses, mattress pads, and mattress sets (16 CFR 1632, 1633). Each of these CPSC regulatory flammability standards specifies detailed flammability testing procedures unique to the product being tested.

## Upholstered Furniture Flammability

Historically — and still today — upholstered furniture fires are the leading cause of fire deaths in the United States.<sup>2</sup> There are two different types of furniture fires: smoldering and flaming. Smoldering furniture fires are typically started by cigarettes, while flaming furniture fires might be ignited by matches, lighters, or large flaming objects.

To address upholstered furniture fires, in 1975 the state of California instituted two mandatory flammability standards for upholstered furniture: Technical Bulletin 116 (TB-116), “Requirements, Test Procedure and Apparatus for Testing the Flame Retardance of Upholstered Furniture,”<sup>3</sup> and Technical Bulletin 117 (TB-117), “Requirements, Test Procedure and Apparatus for Testing the Flame Retardance of Resilient Filling Materials Used in Upholstered Furniture.”<sup>4</sup> TB-116 prescribed a cigarette flammability test for upholstered furniture, while TB-117 prescribed both a cigarette and a small open flame flammability test for furniture filling.<sup>5</sup> (For the purposes of this memo, it should be noted that upholstered

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<sup>2</sup> National Fire Protection Association, *White Paper on Upholstered Furniture Flammability*, September 2013, 32 pp., available at <http://www.nfpa.org/research/reports-and-statistics/fire-causes/household-products/upholstered-furniture>.

<sup>3</sup> Available at <http://www.bearhfti.ca.gov/industry/116.pdf>.

<sup>4</sup> Available at <http://www.bearhfti.ca.gov/industry/117.pdf>.

<sup>5</sup> A third standard, Technical Bulletin 133 (TB-133), “Flammability Test Procedure for Seating Furniture for Use in Public Occupancies,” was instituted in 1992. TB-133 prescribes a large open flame test for seating furniture used in public buildings or public assembly areas. The goal is to prevent catastrophic fires in buildings of public assembly. TB-133 is available at <http://www.bearhfti.ca.gov/industry/tb133.pdf>.

furniture flammability standards, as typified by the California standards, do not govern the flammability of children's car seats.)

Because California is the largest market in the United States, the California flammability standards have become a voluntary national standard, with many furniture makers choosing to manufacture their products to meet the California flammability standards. Specifically, to meet TB-117 for furniture filling, manufacturers have injected flame retardant chemicals into the filling in order to pass the open flame test, which requires that the furniture withstand a small open flame for at least twelve seconds without catching fire.

Flame retardant chemicals are not necessary for furniture filling to pass the cigarette ignition test prescribed by TB-117. In 2013, with concerns rising over the health effects of flame retardant chemicals, California revised its TB-117 flammability standard for furniture filling. The new standard is Technical Bulletin 117-2013 (TB-117-2013), "Requirements, Test Procedure and Apparatus for Testing the Smolder Resistance of Materials Used in Upholstered Furniture."<sup>6</sup> The new standard eliminates the open flame test for furniture filling and now requires that filling (as well as other furniture components) be tested only for smoldering cigarette ignition.<sup>7</sup> Thus, while TB-117-2013 does not ban flame retardant chemicals, under the new standard residential upholstered furniture can now pass the California flammability standards without the use of flame retardant chemicals in the furniture filling.

CPSC has considered for several decades whether to adopt a federal flammability standard for upholstered furniture. Most recently, in 2008 CPSC issued a Notice of Proposed Rulemaking for a standard for the flammability of residential upholstered furniture.<sup>8</sup> Under this proposed standard, furniture manufacturers could use cover materials that are sufficiently smolder resistant to meet a cigarette ignition performance test; or they could place fire barriers that meet smoldering and open flame resistance tests between the cover fabric and interior filling materials. To date, CPSC is gathering research and considering the proposed rule.

The Senate Appropriations Committee has weighed in on the CPSC proposed rule on furniture flammability. In the Senate Appropriations Committee bill report on the Financial Services and General Government Appropriations Bill, 2016 (S.Rept. 114-97), the Committee stated that:

As the Commission considers new upholstered furniture flammability standards, the Committee encourages the Commission to take steps to reduce or limit the use of flame retardant chemicals pursuant to its consumer products safety rule authority (15 U.S.C. 2058). In 2012, the Commission released a study<sup>9</sup> that indicates that flame retardant chemicals, as currently used in upholstered furniture foam, have no practical impact on flammability.

Previously, in the FY2014 bill report (S.Rept. 113-80), the Committee stated:

Although CPSC proposed a draft standard in 2008 similar to California's current effort, the Commission is considering a new standard with an open flame test that would likely result in the

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<sup>6</sup> Available at [http://www.bearhfti.ca.gov/about\\_us/tb117\\_2013.pdf](http://www.bearhfti.ca.gov/about_us/tb117_2013.pdf).

<sup>7</sup> Smoking materials igniting upholstered furniture are a major cause of fire deaths. See: John R. Hall, Jr., National Fire Protection Association, *The Smoking-Material Fire Problem*, July 2013, 46 pp., available at <http://www.nfpa.org/research/reports-and-statistics/fire-causes/smoking-materials>.

<sup>8</sup> CPSC, "Notice of Proposed Rulemaking: Standard for the Flammability of Residential Upholstered Furniture," 73 *Federal Register* 11702, March 4, 2008, available at <https://www.federalregister.gov/articles/2008/03/04/08-768/standard-for-the-flammability-of-residential-upholstered-furniture>.

<sup>9</sup> Cited in NFPA, *White Paper on Upholstered Furniture Flammability*, p. 23. According to NFPA, "Fire retardants have been used to pass small-open-flame tests of filling material. It is not clear how effective these treatments are in resisting small-open-flame ignition of a complete piece of upholstered furniture or in resisting the kind of flaming heat source created when smoldering ignition of the covering fabric is not prevented."

use of both fire barriers and flame retardant chemicals in furniture. This has raised concerns from many including from some in the public health community and some in industry. The Committee urges the CPSC to continue work on a furniture flammability standard that addresses smoldering ignition risk and does not impede the eventual adoption of, and compliance with, California's new proposed standard.

The issue of furniture flammability, how fire prevention measures should be balanced against environmental and economic considerations, and what kind of flammability testing best approximates real-world conditions is highly complex. The National Institute of Standards and Technology (NIST) at the Department of Commerce has a Fire Research Division with a National Fire Research Laboratory that investigates the behavior of fire and the ways to reduce the impact of fire on people, property, and the environment. Currently, NIST has two ongoing projects that are investigating various aspects of furniture flammability: the Reduced Flammability of Upholstered Furniture Project<sup>10</sup> and the Flammability Reduction Technologies Project.<sup>11</sup>

## Flammability Standards with Regard to Children's Car Seats

As discussed below, NHTSA sets flammability standards for vehicles and children's car seats that may be met with the use of certain flame retardant chemicals, but the agency does not consider toxicity as part of its vehicle safety mandate. CPSC's authority to regulate flammability standards in children's car seats is unclear.

### National Highway Traffic Safety Administration<sup>12</sup>

NHTSA derives its regulatory authority from the National Traffic and Motor Vehicle Safety Act of 1966, as amended, which requires the Secretary of Transportation to issue safety standards for all motor vehicles and motor vehicle equipment.<sup>13</sup>

Although children's car seats have been in use since the 1970s and all 50 states and the District of Columbia have laws requiring their use,<sup>14</sup> they are still not universally used today.<sup>15</sup> According to NHTSA, of the 480 children (under 8 years of age) who died in motor vehicle crashes in 2013, 31% were not in children's car seats, booster seats, or wearing seat belts.<sup>16</sup> A study by the Centers for Disease Control and Prevention (CDC) found that in one year, more than 618,000 children (ages up to 12 years) rode in vehicles without the use of a child restraint of some kind at least some of the time.<sup>17</sup>

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<sup>10</sup> For more information, see: [http://www.nist.gov/el/fire\\_research/flamereduc/project\\_furniture.cfm](http://www.nist.gov/el/fire_research/flamereduc/project_furniture.cfm).

<sup>11</sup> For more information, see: [http://www.nist.gov/el/fire\\_research/flamereduc/project\\_flammabilityreductech.cfm](http://www.nist.gov/el/fire_research/flamereduc/project_flammabilityreductech.cfm).

<sup>12</sup> This section of the memorandum was prepared by Bill Canis.

<sup>13</sup> 49 U.S.C. §§30101 et seq.

<sup>14</sup> The first car seat safety law was passed in Tennessee in 1977 and took effect in 1978. American Automobile Association (AAA), "Child Safety Seat Fact Sheet," press release, January 2008, [http://www.aaa.com/aaa/270/PDF/CPS\\_fact\\_Sheet.pdf](http://www.aaa.com/aaa/270/PDF/CPS_fact_Sheet.pdf).

<sup>15</sup> There are at least 49 manufacturers of domestically-sold children's car seats, which are assembled in, or imported into, the United States. Prices for convertible car seats range from \$183 to \$499 on Amazon.

<sup>16</sup> NHTSA, *NCSA Data Resource Web site*, Fatality Analysis Reporting System Encyclopedia, January 2015. Reported in Safe Kids Worldwide, *Motor Vehicle Safety Fact Sheet (2015)*, February 24, 2015, [http://www.safekids.org/sites/default/files/documents/skw\\_motor\\_vehicle\\_fact\\_sheet\\_january\\_2015.pdf](http://www.safekids.org/sites/default/files/documents/skw_motor_vehicle_fact_sheet_january_2015.pdf).

<sup>17</sup> CDC, "Child Passenger Safety: Get the Facts," February 8, 2016, [http://www.cdc.gov/motorvehiclesafety/child\\_passenger\\_safety/cps-factsheet.html](http://www.cdc.gov/motorvehiclesafety/child_passenger_safety/cps-factsheet.html).

Flammability in motor vehicles remains a safety concern for all occupants, including children in car seats. Although the number of vehicle fires has decreased steadily since a peak in 1987, vehicle fires caused 15% of all fires and 11% of all fire-related deaths in 2014.<sup>18</sup> Most vehicle fires (69%) were caused when a collision or overturned vehicles resulted in mechanical failures or electrical malfunctions, where all occupants in the passenger cabin were at risk. Unlike fire risks at home, many of which may be caused by smoking materials, 2% of vehicle fires were caused by such materials.

Federal regulations governing flammability of vehicle interiors took effect in 1972 as Federal Motor Vehicle Safety Standard (FMVSS) 302.<sup>19</sup> It prescribes burn resistance requirements for materials used in vehicle passenger compartments, the purpose of which, according to NHTSA, “is to reduce deaths and injuries to motor vehicle occupants caused by vehicle fires....”<sup>20</sup> This open flame performance standard does not specify what materials must be used in a vehicle compartment, leaving that up to manufacturers to design interiors that meet the burn test specified in the regulation.<sup>21</sup> Although there have been technical amendments to FMVSS 302 since it was promulgated, no major changes have been made to the regulation since 1972.<sup>22</sup> In 1979, following the introduction of children’s car seats to the vehicle market, NHTSA promulgated a final rule establishing FMVSS 213, applying to “child restraint systems.”<sup>23</sup> This standard requires that child restraints meet the burn resistance requirements of FMVSS 302.<sup>24</sup>

## Consumer Product Safety Commission<sup>25</sup>

The scope of CPSC authority to regulate flammability standards in children’s car seats is unclear. The Consumer Product Safety Act (CPSA, 15 U.S.C. §§2051 et seq.) apparently exempts children’s car seats generally from CPSC jurisdiction because such products fall under NHTSA.<sup>26</sup> The CPSA establishes and authorizes CPSC to regulate and enforce safety standards for consumer products generally, with the exception of certain products regulated under statutes and standards administered by other agencies.<sup>27</sup> The exception directly relevant to the regulation of children’s car seats provides that the term *consumer product* does not include “motor vehicles or motor vehicle equipment (as defined by sections 102(3) and

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<sup>18</sup> In 2014, 345 people died in vehicle fires; 1,450 were injured; these vehicle fires caused \$1.5 billion in direct property loss. Marty Ahrens, *Trends and Patterns of U.S. Fire Loss*, National Fire Protection Association, February 2016, pp. 2 and 6.

<sup>19</sup> 49 C.F.R. §571.302. National Highway Safety Bureau, “Flammability of Interior Materials in Passenger Cars, Multipurpose Passenger Vehicles, Trucks and Buses,” 36 *Federal Register* 289, January 8, 1971.

<sup>20</sup> 49 C.F.R. §571.302, S2; National Highway Traffic Safety Administration, *Quick Reference Guide to Federal Motor Vehicle Safety Standards and Regulations*, DOT HS 811 439, February 2011, p. 18.

<sup>21</sup> FMVSS 302 describes the procedure for testing material with a Bunsen burner to determine flammability. 49 C.F.R. §571.302, S5.3.

<sup>22</sup> 36 *Federal Register* 22902, December 2, 1971, as amended at 40 *Federal Register* 14319, March 31, 1975; 40 *Federal Register* 42747, September 16, 1975; 40 *Federal Register* 56667, December 4, 1975; 63 *Federal Register* 28922, 28954, 28955, May 27, 1998; 63 *Federal Register* 50995, 51003, September 24, 1998.

<sup>23</sup> 49 C.F.R. §571.213. National Highway Traffic Safety Administration, “Child Restraint System Seat Belt Assemblies and Anchorages,” 44 *Federal Register* 72131, December 13, 1979.

<sup>24</sup> 49 C.F.R. §571.213, S5.7.

<sup>25</sup> This section of the memorandum was prepared by Margaret M. Lee.

<sup>26</sup> CPSA §3(a)(5)(C), codified at 15 U.S.C. §2052(a)(5)(C).

<sup>27</sup> CPSA §3(a), codified at 15 U.S.C. §2052(a), defines *consumer product* as “any article or component part thereof, produced or distributed (i) for sale to a consumer for use in or around a permanent or temporary household or residence, a school, in recreation, or otherwise, or (ii) for the personal use, consumption or enjoyment of a consumer in or around a permanent or temporary household or residence, a school, in recreation, or otherwise” and enumerates exceptions to CPSC’s authority to regulate consumer products. CPSA §7, codified at 15 U.S.C. §2056, authorizes CPSC to promulgate mandatory consumer product safety standards when there is no voluntary standard for which compliance would eliminate or adequately reduce the risk of injury and, if there is such a standard, it is unlikely that there will be substantial compliance with that standard.

(4) of the National Traffic and Motor Vehicle Safety Act of 1966)<sup>28</sup> which, in turn, defines *motor vehicle equipment* as including “any device or an article or apparel, including a motorcycle helmet and excluding medicine or eyeglasses prescribed by a licensed practitioner, that — (i) is not a system, part, or component of a motor vehicle; and (ii) is manufactured, sold, delivered, or offered to be sold for use on public streets, roads, and highways with the apparent purpose of safeguarding users of motor vehicles against risk of accident, injury, or death.”<sup>29</sup> As noted above, NHTSA promulgated regulations related to flammability, including the requirement that child restraint systems, such as children’s car seats, comply with burn resistance requirements for the flammability of interior materials.

Consistent with NHTSA regulatory actions and CPSA exceptions, CPSC has not promulgated a general rule regarding children’s car seat standards. It did not include children’s car seats in its interpretation of the term *children’s product* defined broadly in the CPSA.<sup>30</sup> The agency also exempted children’s car seats or products that are part of a child travel restraint system from the registration requirements for durable infant or toddler products because they are already covered by NHTSA’s children’s car seat registration program.<sup>31</sup>

On the other hand, CPSC apparently exercises jurisdiction overlapping NHTSA’s jurisdiction over certain dual-use products. CPSC has promulgated safety standards for hand-held infant carriers that *also are intended for use as children’s car seats*.<sup>32</sup> In doing so, CPSC noted that the placement requirements for the strangulation hazard label would not affect NHTSA’s airbag warning label.<sup>33</sup> Responding to a rulemaking comment, however, the agency declined to require a mechanism to alert the consumer that the harness for a hand-held infant carrier is unsecured/improperly secured, because it found that an effective alert mechanism would probably require a power source and that NHTSA may have jurisdiction over a redesign permitting a power source.<sup>34</sup> CPSC has also promulgated standards for strollers that include travel systems that may accommodate an infant car seat.<sup>35</sup> Therefore, CPSC apparently views itself as exercising jurisdiction overlapping NHTSA’s jurisdiction over certain dual-use products. The CPSC safety standard for hand-held infant carriers, however, states that it “is not intended to address incidents or injuries resulting from use of the product in a motor vehicle, nor is it intended to address any issues that may arise from the manufacturer meeting the certification requirements of 49 CFR 571.213 or other applicable add-on child restraint standards.”<sup>36</sup>

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<sup>28</sup> CPSA §3(a)(5)(C), codified at 15 U.S.C. §2052(a)(5)(C). Sections 102(3) and (4) of the National Traffic and Motor Vehicle Safety Act of 1966 are codified at 49 U.S.C. §30102(a)(6) and (7); effective June 1, 2016, codified at 49 U.S.C. §30102(a)(7) and (8).

<sup>29</sup> 49 U.S.C. §30102(a)(7)(C).

<sup>30</sup> 16 C.F.R. Part 1200. CPSC, “Interpretation of “Children’s Product,” 75 *Federal Register* 63067, October 14, 2010.

<sup>31</sup> 16 C.F.R. §1130.1(b).

<sup>32</sup> 16 C.F.R. Parts 1112 and 1225. CPSC, “Safety Standard for Hand-Held Infant Carriers,” 78 *Federal Register* 73415, December 6, 2013.

<sup>33</sup> *Ibid.*, at 73418.

<sup>34</sup> *Ibid.*

<sup>35</sup> 16 CFR Parts 1112 and 1227. CPSC, “Safety Standard for Carriages and Strollers,” 79 *Federal Register* 13208, March 10, 2014.

<sup>36</sup> ASTM International (formerly the American Society for Testing and Materials), ASTM F2050-13a, Standard Consumer Safety Specification for Hand-Held Infant Carriers, §1.5. ASTM F2050-13a is incorporated by reference, with certain modifications, at 16 C.F.R. §1225.2. Although the Federal Register notice for the Final Rule of another child product standard, the safety standard for carriages and strollers, notes that some of these products have components that can be removed to become children’s car seats, neither this notice nor the ASTM standard that is incorporated by reference, with certain modifications, into the rule discuss or mention flammability standards. 16 CFR Parts 1112 and 1227. CPSC, “Safety Standard for Carriages and Strollers,” 79 *Federal Register* 13208-09, March 10, 2014, and ASTM International, ASTM F833-13b, “Standard Consumer Safety Performance Specification for Carriages and Strollers.”

If a consumer product has a dual-use as a children's product and as a children's car seat, CPSC arguably could establish flammability standards pursuant to its authority under the CPSA, the Federal Hazardous Substances Act (FHSA, 15 U.S.C. §§1261 et seq.),<sup>37</sup> or the FFA. The CPSA authorizes CPSC to promulgate rules for consumer product safety standards,<sup>38</sup> such as the strangulation-hazard labeling noted above, and for declaring a product to be a *banned hazardous product*.<sup>39</sup> The FHSA provides for warning or informational labeling of hazardous substances, including certain flammable substances,<sup>40</sup> and for the

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<sup>37</sup> CPSC arguably has authority to regulate hazardous substances, including flammable substances and flame retardants used in children's car seats that are not dual-use. In *Committee for Hand Gun Control, Inc. v. CPSC*, 388 F. Supp. 216 (D.D.C. 1974), the court found that, in the CPSA, Congress had clearly and unambiguously eliminated guns and ammunition from the definition of *consumer product*. The court, however, further found that Congress had also transferred authority to administer the FHSA to CPSC and had "made no statement indicating that CPSC jurisdiction to administer the FHSA was in any way limited and the FHSA itself contains no limitation of authority to regulate those substances found to be hazardous. Since ammunition previously has been determined to be a hazardous substance, there is no limitation on the CPSC's authority to regulate that substance according to the rules and procedures of the FHSA." Accordingly, the court ruled that CPSC had authority under the FHSA to promulgate regulations declaring that handgun ammunition is a "banned hazardous substance" within the meaning of the FHSA and to restrict the manufacture and sale of handgun ammunition. Congress subsequently enacted a statute clarifying that CPSC could not restrict the manufacture or sale of firearms and ammunition. Consumer Product Safety Commission Improvement Act, Pub. L. 94-248, §3, 90 Stat. 503, 504 (1976), codified at 15 U.S.C. §2080 note.

<sup>38</sup> CPSA §7(a), codified at 15 U.S.C. §2056(a), provides:

- (a) Types of requirements. The Commission may promulgate consumer product safety standards in accordance with the provisions of section 9 [15 USC § 2058]. A consumer product safety standard shall consist of one or more of any of the following types of requirements:
- (1) Requirements expressed in terms of performance requirements.
  - (2) Requirements that a consumer product be marked with or accompanied by clear and adequate warnings or instructions, or requirements respecting the form of warnings or instructions.

Any requirement of such a standard shall be reasonably necessary to prevent or reduce an unreasonable risk of injury associated with such product.

<sup>39</sup> CPSA §8, codified at 15 U.S.C. §2057, provides:

Whenever the Commission finds that--

- (1) a consumer product is being, or will be, distributed in commerce and such consumer product presents an unreasonable risk of injury; and
  - (2) no feasible consumer product safety standard under this Act would adequately protect the public from the unreasonable risk of injury associated with such product,
- the Commission may, in accordance with section 9 [15 U.S.C. §2058], promulgate a rule declaring such product a banned hazardous product.

<sup>40</sup> FHSA §2(f)(1), codified at 15 U.S.C. §1261(f)(1), defines *hazardous substance* as:

(A) Any substance or mixture of substances which (i) is toxic, (ii) is corrosive, (iii) is an irritant, (iv) is a strong sensitizer, (v) is flammable or combustible, or (vi) generates pressure through decomposition, heat, or other means, if such substance or mixture of substances may cause substantial personal injury or substantial illness during or as a proximate result of any customary or reasonably foreseeable handling or use, including reasonably foreseeable ingestion by children.

(B) Any substances which the Commission by regulation finds, pursuant to the provisions of section 3(a) [15 U.S.C. §1262(a)], meet the requirements of subparagraph 1(A) of this paragraph.

(C) Any radioactive substance, if, with respect to such substance as used in a particular class of article or as packaged, the Commission determines by regulation that the substance is sufficiently hazardous to require labeling in accordance with this Act in order to protect the public health.

(D) Any toy or other article intended for use by children which the Commission by regulation determines, in accordance with section 3(e) of this Act [15 U.S.C. §1262(e)], presents an electrical, mechanical, or thermal hazard.

(E) Any solder which has a lead content in excess of 0.2 percent.

(continued...)

banning of certain hazardous substances for which labeling would not provide adequate protection for the public against the potential hazards posed by the substances.<sup>41</sup> As noted above, the FFA provides for the establishment of safety standards regarding flammability of fabric or related material used in wearing apparel or interior furnishings.<sup>42</sup> The FFA defines an *interior furnishing* as “any type of furnishing made in whole or in part of fabric or related material and intended for use or which may reasonably be expected to be used, in homes, offices, or other places of assembly or accommodation.”<sup>43</sup> This definition apparently would not include children’s car seats unless such items, like dual-use infant carriers, could be considered interior furnishings.<sup>44</sup>

These authorities, arguably, include flammability standards at least for dual-use products as long as such standards do not affect or conflict with NHTSA’s jurisdiction and flammability standards. CPSC could, for example, adopt a flammability standard for a dual-use product that is the same as the NHTSA standard. Alternatively, even if a CPSC standard were different, it could be a standard that a dual-use product could satisfy while also satisfying the NHTSA standard. CPSC could also defer to the NHTSA standard.

CPSC has deferred to the overlapping jurisdiction of other agencies regarding certain hazards or risks of injury. For example, CPSC deferred to EPA in declining to exclude the use of specific flame retardants for mattress sets due to health risks, for which CPSC arguably had authority pursuant to the FHSA and/or the FFA. CPSC noted that EPA “has broad statutory authority over chemical substances that address potential risks to consumers, workers, and the environment. EPA has several programs . . . to evaluate the potential hazards of chemicals, including flame retardants, to consumers, workers, and the environment. In addition, the CPSC staff is cooperating with EPA in developing a significant new use rule (SNUR) for FR

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(...continued)

FHSA §2(f), codified at 15 U.S.C. §1261(f), also specifies certain exemptions to the definition of *hazardous substance*. FHSA §2(p), codified at 15 U.S.C. §1261(p), defines a *misbranded hazardous substance* as a substance that is not labeled to warn the consumer about the presence, risk of injury, and instructions for handling and use of a hazardous substance. Under CPSC regulations for the FHSA, flammable and thermal hazards are distinct. Flammable substances are defined at 16 C.F.R. §1500.3(c)(6); thermal hazards are defined at 16 C.F.R. §1500.3(b)(18).

<sup>41</sup> FHSA §2(q)(1), codified at 15 U.S.C. §1261(q)(1), defines a *banned hazardous substance* generally as:

(A) any toy, or other article intended for use by children, which is a hazardous substance, or which bears or contains a hazardous substance in such manner as to be susceptible of access by a child to whom such toy or other article is entrusted; or (B) any hazardous substance intended, or packaged in a form suitable, for use in the household, which the Commission by regulation classifies as a “banned hazardous substance” on the basis of a finding that, notwithstanding such cautionary labeling as is or may be required under this chapter for that substance, the degree or nature of the hazard involved in the presence or use of such substance in households is such that the objective of the protection of the public health and safety can be adequately served only by keeping such substance, when so intended or packaged, out of the channels of interstate commerce. . . .

Certain products, such as chemical sets and fireworks, which inherently contain hazardous substances, may be labeled to warn the consumer about the presence, risk of injury, and instructions for handling and use of a hazardous substance, and are not banned hazardous substances. FHSA §3, codified at 15 U.S.C. §1262, authorizes CPSC to promulgate a rule classifying certain hazardous substances as banned hazardous substances.

<sup>42</sup> FFA §4, codified at 15 U.S.C. §1193.

<sup>43</sup> FFA §2(e), codified at 15 U.S.C. §1191(e).

<sup>44</sup> Neither CPSC regulations nor case law appear to have parsed the full scope of interior furnishings, at least regarding children’s car seats. However, CPSC Advisory Opinion 310, April 30, 1987, indicates that certain items used in the home or other places of assembly or accommodation (offices and other non-residential buildings) could be considered interior furnishings. These include decorative fabric wall hangings, children’s products made from fabric or related material, blankets, bedding, drapes, carpets, upholstery, and other similar items. The Advisory Opinion further notes that “in appropriate cases, children’s articles made of fabric or related material and intended for indoor use may be regulated by the Commission as products of interior furnishing.” This Advisory Opinion is available at <https://www.cpsc.gov/Media/Documents/Regulations-Laws--Standards/Advisory-Opinions/interior-furnishing-310--/>.

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[flame retardants] chemicals that could be used to comply with CPSC or state flammability requirements for upholstered furniture and possibly mattresses.”<sup>45</sup>

In an example of apparent recognition that NHTSA has jurisdiction over children’s car seats, a group of consumer and health advocates petitioned CPSC to initiate rulemaking to ban a class of flame retardants; however, the petition explicitly excludes children’s car seats, seemingly recognizing NHTSA’s jurisdiction over such products.<sup>46</sup> Although the petition does not constitute and does not necessarily reflect the agency’s own interpretation or understanding of its jurisdiction and authority, the apparent recognition by consumer and health advocates that children’s car seats do not fall under the jurisdiction of CPSC is noteworthy.

Even where CPSC clearly has jurisdiction to promulgate a mandatory safety standard, rulemaking provisions of the CPSA,<sup>47</sup> FHSA,<sup>48</sup> and FFA<sup>49</sup> all require CPSC to rely upon voluntary standards and refrain from issuing mandatory standards whenever (1) compliance with voluntary standards would eliminate or adequately reduce the risk of injury, and (2) substantial compliance with voluntary standards is likely.

## U.S. Environmental Protection Agency and Flame Retardant Chemicals<sup>50</sup>

EPA is authorized under Title I of the Toxic Substances Control Act (TSCA; 15 U.S.C. §§2601-2629) to identify and regulate chemicals that present unreasonable risks of injury to health or the environment.<sup>51</sup> Since 1976, when TSCA was enacted, however, EPA has restricted relatively few chemicals in commerce out of thousands covered by the statute.<sup>52</sup> Although flame retardant chemicals are covered under TSCA, EPA has not restricted flame retardants when used in children’s car seats. Under TSCA, EPA has been evaluating various chemicals used as flame retardants in a range of commercial products.<sup>53</sup>

TSCA directs EPA to require chemical manufacturers and processors to keep records and report chemical information to the agency for purposes of the statute.<sup>54</sup> If EPA determines that insufficient information is available to evaluate whether risks for a particular chemical would be unreasonable, the agency is

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<sup>45</sup> CPSC, “Final Rule: Standard for the Flammability (Open Flame) of Mattress Sets,” 71 *Federal Register* 13472, 13479, March 15, 2006.

<sup>46</sup> 16 C.F.R. Part 1500. CPSC, “Petition Requesting Rulemaking on Products Containing Organohalogen Flame Retardants,” 80 *Federal Register* 50238, August 19, 2015.

<sup>47</sup> CPSA §7(b), codified at 15 U.S.C. §2056(b), and CPSA §9(b), codified at 15 U.S.C. §2058(b).

<sup>48</sup> FHSA §3(g), (i)(2), and (j), codified at 15 U.S.C. §1262(g), (i)(2), and (j).

<sup>49</sup> FFA §4(h), (j)(2), and (k), codified at 15 U.S.C. §1193(h),(j)(2), and (k).

<sup>50</sup> This section of the memorandum was prepared by Jerry H. Yen.

<sup>51</sup> The scope of chemicals covered by TSCA is broad with some exceptions. TSCA authorizes EPA to evaluate risks for the entire lifecycle of a chemical, from manufacture (which by definition includes importation) to disposal.

<sup>52</sup> EPA states that over 85,000 chemicals are covered by TSCA. Not all chemicals covered by TSCA are currently being manufactured or processed in commerce. EPA, “About the TSCA Chemical Substance Inventory,” last updated October 26, 2015, <https://www.epa.gov/tsca-inventory/about-tsca-chemical-substance-inventory>.

<sup>53</sup> EPA proposed to further evaluate risks for three groups of chemicals generally used as flame retardants (i.e., chlorinated phosphate esters, cyclic aliphatic bromides, and tetrabromobisphenol A and related chemicals). For another group of chemicals generally used as flame retardants, brominated phthalates, EPA indicated insufficient data to assess the group. EPA, “Fact Sheet: Assessing Risks from Flame Retardants,” last updated January 20, 2016, <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/fact-sheet-assessing-risks-flame-retardants>.

<sup>54</sup> TSCA §8, codified at 15 U.S.C. §2607.

authorized to require testing of that chemical by its manufacturer or processor if certain conditions are met.<sup>55</sup> If EPA were to find unreasonable risks associated with a chemical, the agency is required to promulgate the least burdensome requirement among a set of regulatory options that vary in severity from a total ban to notification of the risks by manufacturers to distributors, other persons in possession of the chemical, and the general public.<sup>56</sup> Whether a chemical may be regulated under TSCA not only depends on whether unreasonable risks are identified but also other factors, such as whether another statutory authority administered either by EPA or another agency may address the unreasonable risk identified by EPA.<sup>57</sup> Generally, TSCA would not be used to regulate a chemical if EPA determines that the unreasonable risk may be addressed by a statutory authority other than TSCA.<sup>58</sup>

Under TSCA, EPA is also authorized to determine, by rule, that a use of a chemical is a “significant new use,” which then would require persons to notify the agency at least 90 days before they manufacture or process the chemical for that use.<sup>59</sup> The notice required by a significant new use rule (SNUR) allows EPA the opportunity to review and if necessary regulate that new use of the chemical. One instance in which EPA may issue a SNUR is when particular uses of a chemical have been phased out and the agency wants to be made aware of the potential reintroduction of the chemical for that use.<sup>60</sup>

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<sup>55</sup> TSCA §4, codified at 15 U.S.C. §2603.

<sup>56</sup> TSCA §6, codified at 15 U.S.C. §2605.

<sup>57</sup> TSCA §9, codified at 15 U.S.C. §2608.

<sup>58</sup> For more information on TSCA, see CRS Report RL31905, *The Toxic Substances Control Act (TSCA): A Summary of the Act and Its Major Requirements*, by Jerry H. Yen. In the 114<sup>th</sup> Congress, the House and the Senate have passed different legislation that would amend TSCA. Differences between the legislation have not yet been resolved. For more information on the legislation, see CRS Report R44434, *Proposed Amendments to the Toxic Substances Control Act (TSCA) in the 114th Congress: H.R. 2576 Compared with the Senate Substitute Amendment*, by Jerry H. Yen and Alexandra M. Wyatt.

<sup>59</sup> TSCA §5(a), codified at 15 U.S.C. §2604(a).

<sup>60</sup> EPA has promulgated SNURs for certain flame retardant chemicals. On June 23, 2006, EPA promulgated a SNUR for two polybrominated diphenylethers (PBDEs), pentaBDE and octaBDE, then commonly used as flame retardants in commercial products. 40 C.F.R. §721.10000. EPA, “Certain Polybrominated Diphenylethers; Significant New Use Rule,” 71 *Federal Register* 34015-34021, June 13, 2006. Also, on September 23, 2015, EPA promulgated a SNUR for two chemicals collectively referred to as “HBCD” for use in consumer textiles (other than for use in motor vehicles). 40 C.F.R. §721.10281. EPA, “Significant New Use Rule for Hexabromocyclododecane and 1,2,5,6,9,10-Hexabromocyclododecane,” 80 *Federal Register* 57293-57302, September 23, 2015.