



UNITED STATES  
 CONSUMER PRODUCT SAFETY COMMISSION  
 4330 EAST WEST HIGHWAY  
 BETHESDA, MD 20814

**DATE:** June 5, 2019

**BALLOT VOTE SHEET**

This document has been electronically approved and signed.

**TO:** The Commission  
 Alberta E. Mills, Secretary

**THROUGH:** Patricia M. Hanz, General Counsel  
 Mary T. Boyle, Executive Director

**FROM:** Patricia M. Pollitzer, Assistant General Counsel, Regulatory Affairs  
 Meridith L. Kelsch, Attorney, Regulatory Affairs

**SUBJECT:** Update to CPSIA Section 104 Durable Infant or Toddler Product Standard:  
 Revised Voluntary Standard for High Chairs

**BALLOT VOTE DUE:** Tuesday, June 11, 2019

Staff is forwarding to the Commission a briefing memorandum about the revised ASTM standard for high chairs. The Commission issued a consumer product safety standard for high chairs under section 104(b) of the Consumer Product Safety Improvement Act (CPSIA). The final rule incorporated by reference ASTM F404-18, *Standard Consumer Safety Specification for High Chairs* into 16 CFR part 1231. On April 3, 2019, ASTM notified the Commission that it published a revised standard for high chairs, ASTM F404-18a.

The CPSIA provides procedures for when a voluntary standard that the Commission has adopted as a mandatory standard under section 104 is updated. 15 U.S.C. § 2056a(b)(4)(B). CPSC staff reviewed the revised standard and recommends that the Commission direct staff to notify ASTM that the Commission: (1) has determined that the revised high chairs standard does not improve the safety of high chairs, and (2) is retaining the existing consumer product safety standard for high chairs.

Please indicate your vote on the following options:

- I. Determine that ASTM F404-18a does not improve the safety of high chairs and direct CPSC staff to notify ASTM: (1) of this determination, and (2) that the Commission is retaining the existing standard for high chairs in 16 CFR part 1231.

\_\_\_\_\_  
 (Signature)

\_\_\_\_\_  
 (Date)

CPSC Hotline: 1-800-638-CPSC(2772) ★ CPSC's Web Site: <http://www.cpsc.gov>

- II. Accept ASTM F404-18a as the new mandatory standard for high chairs and direct CPSC staff to prepare a draft *Federal Register* notice to revise the version of the standard incorporated by reference in 16 CFR part 1231.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

- III. Take other action specified below.

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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)



UNITED STATES  
CONSUMER PRODUCT SAFETY COMMISSION  
4330 EAST WEST HIGHWAY, BETHESDA, MD 20814

Memorandum

This document has been electronically  
approved and signed.

June 5, 2019

TO : The Commission  
Alberta E. Mills, Secretary

THROUGH: Patricia M. Hanz, General Counsel  
Mary T. Boyle, Executive Director  
DeWane Ray, Deputy Executive Director for Safety Operations

FROM : George A. Borlase, Ph.D., P.E., Assistant Executive Director  
Office of Hazard Identification and Reduction

Stefanie Marques, Ph.D., High Chairs Project Manager  
Division of Physiology and Pharmacology  
Directorate for Health Sciences

SUBJECT : Consumer Product Safety Improvement Act of 2008 (CPSIA), as revised by  
Pub. L. No. 112-28) – Notice of Revision to the High Chairs Standard (16 CFR  
Part 1231)

**I. INTRODUCTION**

The Danny Keysar Child Product Safety Notification Act, *i.e.*, section 104 of the Consumer Product Safety Improvement Act of 2008 (CPSIA), instructs the voluntary standards organization, ASTM International (ASTM), to notify the U.S. Consumer Product Safety Commission (CPSC) of revisions to voluntary standards that are the basis for a consumer product safety standard promulgated by the Commission, as stated below:

*“(B) COMMISSION ACTION ON REVISED VOLUNTARY STANDARD - If an organization revises a standard that has been adopted, in whole or in part, as a consumer product safety standard under this subsection, it shall notify the Commission. The revised voluntary standard shall be considered to be a consumer product safety standard issued by the Commission under section 9 of the Consumer Product Safety Act (15 U.S.C. 2058), effective 180 days after the date on which the organization notifies the Commission (or such later date specified by the Commission in the Federal Register) unless, within 90 days after receiving that notice, the Commission notifies the organization that it has determined that the proposed revision does not*

*improve the safety of the consumer product covered by the standard and that the Commission is retaining the existing consumer product safety standard.”*

On June 19, 2018, the Commission published a high chair final rule, 16 CFR part 1231, incorporating by reference, without change, ASTM F404-18, *Standard Consumer Safety Specification for High Chairs*. The effective date for the final rule is June 19, 2019. On April 3, 2019, ASTM officially notified the CPSC that it published a revised standard, ASTM F404-18a to update the requirements for high chairs. This memorandum outlines the revisions made to ASTM F404 since CPSC’s mandatory standard was published, and it assesses the differences between 16 CFR part 1231 (which incorporated by reference ASTM F404-18) and the current version submitted by ASTM (ASTM F404-18a). The memorandum also discusses other infant product standards that include similar provisions, relevant incident data, testing conducted by CPSC staff, and CPSC staff’s ongoing standards development work with ASTM regarding high chairs. Based on this discussion, staff recommends that the Commission determine that ASTM’s revision to the high chair standard does not improve the safety of high chairs and that the Commission should retain the existing CPSC standard for high chairs.

## **II. DISCUSSION**

### ***A. Differences between ASTM F404-18 and ASTM F404-18a***

ASTM F404-18a is the only revision to the standard since publication of the final rule. ASTM F404-18a adds a new subsection 6.5.1, which exempts a subset of high chair products, which were discussed in the final rule briefing package as “reclined seat high chair products” (Figure 1)



**Figure 1. Examples of reclined seat high chair products**

Section 6.5, including all stability requirements, and the new subsection 6.5.1 underlined, is shown below.

*6.5 Stability:*

6.5.1 High chairs and high chair accessories that, per the manufacturer’s instructions, can be used only with children who are unable to sit upright unassisted (birth to approximately 6 months of age) and weigh 20 lb (9.1 kg) or less are exempt from the requirements in this section.

6.5.2 *Forward and Sideways Stability*—A high chair shall not tip over when setup as defined in 7.7.2.1 – 7.7.2.3, and then when forces are applied in accordance with 7.7.2.4 and 7.7.2.5.

6.5.3 *Rearward Stability*—When setup as defined in 7.7.2.1 – 7.7.2.3, and then tested in accordance with 7.7.2.6, the high chair shall have a Rearward Stability Index of 50 or more.

6.5.4 *Stability with Child Climbing into Chair*—A high chair shall not tip over when tested in accordance with 7.7.3.

The addition of subsection 6.5.1 is a substantive change to F404-18 that does not improve the safety of high chairs because it exempts products used by a vulnerable group (children from birth to approximately 6 months of age) from essential performance requirements in F404-18: 6.5.2. *Forward and Sideways Stability*, 6.5.3. *Rearward stability*, and 6.5.4 *Stability with Child Climbing into Chair*. Before the Commission issued its proposed high chair standard in 2015, CPSC staff worked closely with ASTM for more than a year to improve the rearward stability testing required in subsection 6.5.2 to minimize rearward tip over incidents; the addition of this new subsection, however, eliminates this protection for certain high chairs.

ASTM F404 – 18a also includes several non-substantive changes that do not have an adverse impact on safety, such as reorganizing the warning label section 8.5.1 to clarify the location of the warning label for high chairs with trays, which states “Tray is not designed to hold child in chair.” It also adds a warning label section regarding the products exempted in 6.5.1 to warn users to discontinue use of the product when the child can sit upright unassisted or exceeds 20 lb. (For details on these changes see Appendix A).

***B. Stability requirements in other infant product standards and relevant incident data***

The exemption ASTM added to F404-18a is not consistent with stability requirements in ASTM standards for other products intended for users under 6 months old, and it is not consistent with incident data demonstrating that infant high chair users are involved in stability incidents.

Exempting high chairs and high chair accessories intended for children who are unable to sit upright unassisted (birth to approximately 6 months of age) from essential stability requirements is not consistent with other product standards that are intended for the same age group. For example, the standard for infant bouncers (ASTM F2167-17), a product that is intended to be used on the floor by infants 0 - 6 months of age, has forward, sideward, and rearward stability requirements. The rationale for the forward stability test for bouncers notes that forward tip overs can occur when the child occupant leans forward (X1.4.1). Also, the standard for bassinets and cradles (ASTM 2194-16), products intended for infants up to 5 months of age, has a stability test that involves hanging a 23-lb weight from the side rail and then applying a 5-lb horizontal force (Stability section 7.4). Section 7.4.6.1, which sets forth the rationale for the bassinet and cradle standard, states: “the dual application of the horizontal and vertical forces will simulate an angled load tipping the unit over. The 23-lb load is the mean strength of a male 2-year-old pulling” (*i.e.*, a sibling interaction test). The Commission requires compliance with both of these provisions, having adopted F2167 and F2194 as mandatory standards (16 CFR parts 1218 (bassinets and cradles) and 1229 (bouncer seats)).

The stability requirements in these standards indicate the need to address the hazard posed to infant users when a product intended for infants is not stable. Unstable products present a hazard to infant users, even though they are less mobile than older children. As the standards for bouncers, bassinets, and cradles suggest, an infant’s movements within a product, or others’ interactions with the product (*e.g.*, siblings) can result in the product tipping over.

In addition, a review of high chair incident data shows that tip over incidents resulting from occupant movement within the high chair or from external forces, such as a sibling or caregiver acting on the high chair, do occur with children 6 months and younger (for incident details see Appendix B).

### ***C. Testing of reclined-seat high chair products***

ASTM F404-18a includes the following rationale (X1.21) for exempting reclined-seat high chair products in subsection 6.5.1:

Exemption added to exempt high chairs that are for use with only children unable to sit upright unassisted and that weight [sic] 20 lb (9.1 kg) or less from the stability requirements in the standard as the current test methods cannot be conducted as prescribed when testing a reclined infant only high chair.

CPSC staff disagrees with this rationale because staff has been able to test reclined-seat high chair products under the stability requirements in the standard. CPSC staff has shared this information with the ASTM high chair task group for reclined-seat high chair products.

Moreover, several of the reclined-seat high chair products staff tested failed the stability requirements in the standard, suggesting that these products can present a stability hazard.

At the end of 2017, CPSC staff successfully tested one reclined-seat high chair product to the stability requirements of F404-18; the product CPSC staff tested was from the manufacturer who had originally written a letter to ASTM expressing concerns that its product could not be tested to the current standard.

In January 2018, CPSC staff informed the ASTM high chair task group for reclined-seat high chair products that we were able to test successfully a reclined-seat high chair product and that CPSC staff disagreed with the position stated in the rationale above. The same information was also discussed the following May at the ASTM high chair subcommittee meeting. From May to November 2018, CPSC staff expanded its testing of reclined-seat high chair products and successfully tested a total of six products from a variety of manufacturers. (For details on CPSC testing of reclined-seat high chair products, see Appendix C). At the October 2018 ASTM high chair subcommittee meeting, CPSC staff once again stated that we were able to test multiple samples of reclined-seat high chair products and disagreed that these products cannot be tested to the current standard. At that same October 2018 meeting, four negative votes on the reclined-seat high chair product exemption ballot were resolved, and the ballot passed (for a detailed time line of the reclined-seat high chair product issue and ballot, see Appendix D).

Of the six products staff tested, only three (50 percent) passed all three stability tests (forward, side, and rearward). More specifically, three of the six products (50 percent) passed the forward stability test; five of the six products (83 percent) passed both side stability tests; and all six products passed the rearward stability test.

#### ***D. CPSC's ongoing work with ASTM to develop stability requirements for reclined-seat high chair products***

The rationale (X1.21) in ASTM F404-18a for the exemption of reclined-seat high chair products in subsection 6.5.1 also states:

This exemption is intended to be temporary until appropriate testing for these types of high chairs are developed and can be incorporated into the standard.

ASTM's stated intention to develop stability testing requirements for these exempted products suggests that subcommittee members think that these products do pose a potential stability hazard, and that exempting these products from stability requirements while these new requirements are being developed does reduce the safety of these high chairs. In fact, when discussing the timeline that ASTM would allow to develop these new requirements at the October 2018 high chairs subcommittee meeting, initially the subcommittee chair suggested 18

months. Other members of the subcommittee, however, contended that such a timeframe was too long to allow these products to be exempt from stability requirements. The subcommittee ultimately compromised on a 12-month timeline.

Although CPSC staff does not agree with exempting reclined-seat high chair products from the stability requirements, we are actively working with ASTM to develop alternative stability requirements for these products. In November 2018, CPSC staff tested six reclined-seat high chair products to stability requirements proposed by the manufacturer who originally expressed concerns about the testing of these products. In March 2019, CPSC staff sent ASTM a letter describing our testing of the six reclined-seat high chair products to the stability requirements of F404-18 and to the requirements proposed by the manufacturer. Also in March 2019, CPSC staff hosted a reclined-seat high chair task group meeting, where staff demonstrated our testing on reclined-seat high chair products. The discussion that followed the testing demonstration was very productive, and the task group decided that it would explore the idea of using the sibling interaction test from the bassinet and cradle standard to develop stability requirements for the reclined-seat high chair products. This idea was presented at the ASTM subcommittee teleconference on April 4, 2019, and was well received by the subcommittee. (For details on the time line for development of the stability requirements for reclined-seat high chair products by October 2019, see Appendix E). CPSC staff plans to continue to work with ASTM on this issue throughout the proposed timeline.

### **III. RECOMMENDATIONS**

For the following reasons, staff concludes that revised voluntary standard for high chairs, ASTM F404-18a, does not improve the safety of high chairs:

- 1) Staff does not agree with ASTM's rationale that reclined-seat high chair products should be exempt from stability requirements in ASTM F404-18 because they cannot be tested; we have shown that these products can be tested and we have discussed this issue with ASTM for more than a year.
- 2) Exempting these products from essential stability requirements fails to protect a vulnerable infant population from tip-over incidents. The fact that stability requirements are essential for products intended for this age group is supported by incident reports, stability requirements in other infant product standards, CPSC staff's stability testing of these products (which yielded some failures), and ASTM's own rationale for the exemption of these products.

In sum, exempting a subset of high chair products from the stability requirements in the standard, when they were not previously exempt, potentially reduces the safety of this subset of high chairs, and therefore, does not improve the safety of high chairs. Staff recommends that the Commission determine that the proposed revision does not improve the safety of high chairs, and that before July 2 (thus within 90 days after receiving notice), the Commission notify ASTM that it has determined that the proposed revision does not improve the safety of high chairs covered by the standard and that the Commission is retaining the existing consumer product safety standard, ASTM F404-18 incorporated by reference in 16 CFR part 1231.

## Appendix A. Warning labels revisions in F404-18a (Underlined text indicates additions to section and strike out text indicates deletions to section)

8.5 *Warning Statements*—High chairs shall have warning statements to address the following, at a minimum.

8.5.1 The warning statement in this section shall be in a location that is visible by the caregiver while placing the occupant into the high chair in each of the manufacturer's recommended use positions but not necessarily visible when the occupant is in the high chair.

NOTE 16—Address means that verbiage other than what is shown can be used as long as the meaning is the same or information that is product-specific is presented.

8.5.1.1 High chairs that do not have a seating component that is also used as a seating component of a stroller shall address the following warning statement:

**“FALL HAZARD:** Children have suffered **severe** head injuries including skull fractures when falling from high chairs. Falls can happen suddenly if child is not restrained properly.

• Always use restraints, and adjust to fit snugly.”

8.5.1.2 High chairs that have a seating component that is also used as a seating component of a stroller shall use the warning statements as specified in 8.2.2.1 and 8.2.2.2 of the version of the standard that is incorporated by reference in 16 CFR Part 1227 Safety Standard for Carriages and Strollers, in place of the warning statements in 8.5.1.1.

8.5.1.3 For high chairs that are designed to be used with a tray, include the additional warning in this section:

• Tray is not designed to hold child in chair.

~~8.5.2 For high chairs that are designed to be used with a tray, include the additional warning in this section:~~

~~• Tray is not designed to hold child in chair.~~

8.5.2 High chairs shall address the warning in this section and this warning shall be conspicuous:

8.5.2.1 • Stay near and watch child during use.

8.5.2.2 High chairs or high chair accessories that, per the manufacturer's instructions, can be used with only children unable to sit upright unassisted and weigh 20 lb (9.1 kg) or less shall include the following warning:

• Discontinue use of this (manufacturer to insert the appropriate term to describe the specific product, for example, high chair, high chair accessory, or accessory name, etc.) when child is able to sit upright unassisted or weighs more than 20 lb (9.1 kg).

**Appendix B. High chair tip-over incidents involving children 6 months and younger from 2011-2018**

Document #	Date	Age (months)	Narrative	Cause of tip over	Injury	injury severity
111108CCC3115	4/1/2011	3	Complainant stated her 3-month-old child was injured in his high chair, when he was rocking in it and fell over. She stated the only injury he suffered was a scratch on his back.	occupant rocking in chair	scratch on back	minor
NEISS	2/1/2015	2	2-month-old male was in a high chair, at home & his siblings were playing with him, the chair got tipped over, hit face/head on floor. DX: frontal bone fracture.	unknown, siblings nearby	fractured bone in face	moderate
NEISS	11/30/2015	6	6-month-old female sitting in her high chair when it tipped over. She remained in chair and hit head on the floor DX: closed head injury.	unknown	head injury	moderate
NEISS	5/27/2015	4	4-month-old female was in high chair strapped in & the mother was pushing the high chair & it fell. Struck forehead on floor. DX: contusion to forehead.	mother pushing high chair	forehead contusion	minor
NEISS	9/8/2017	5	5-month-old male strapped in a high chairs fell appx 5ft when high chair tipped over DX: closed head injury.	unknown	head injury	moderate
NEISS	10/22/2017	6	6-month-old male in high chair that another child knocked over. Patient hit tile floor; DX: closed head injury.	another child knocked over	head injury	moderate
NEISS	6/26/2018	6	6-month-old female in a high chair – sibling pushed the high chair over and patient fell to the floor. DX: finger laceration	sibling pushed high chair	finger laceration	minor

**Total incidents: 7**

**Cause of tipover:**

- 1 Occupant movement (3-month-old)
- 3 External force exerted (sibling/parent)

**Injuries:**

5 head injuries, out of which 4 were serious

## Appendix C. CPSC testing of reclined-seat high chairs to stability requirements in F404-18

The figure below demonstrates how staff placed the 40-pound weights, and it also shows an example stability test (rearward).



Table 1. CPSC staff testing of reclined-seat high chairs to ASTM F404 – 18

High Chair Sample	40 lb. test weight			
	Rearward Stability	Forward Stability	Side (left) Stability	Side (right) Stability
A	Pass	Fail	Pass	Pass
B	Pass	Pass	Pass	Pass
C	Pass	Fail	Pass	Pass
D	Pass	Pass	Pass	Pass
E	Pass	Pass	Pass	Pass
F	Pass	Fail	Fail	Fail

## Appendix D. Timeline of reclined-seat high chair issue and ballot

- In March 2017, a manufacturer sent a letter to ASTM asking ASTM to review the forward stability requirements for their newborn accessory. This letter was presented at the subsequent subcommittee meeting in April, but not discussed.
- From May to October 2017, CPSC staff worked with ASTM to draft guidelines on whether these products would fall under the scope of the high chair standard.
- In October 2017, there was a task group meeting and a subcommittee meeting. At both meetings ASTM agreed with the draft guidelines and that these products would fall under the scope of the high chair standard.
- In January 2018, CPSC staff informed the task group at the task group teleconference that we had successfully tested a reclined-infant seat product to the stability requirements of F404-18. The task group determined that there was not consensus among the group on the definition of the products to be exempted and therefore it was too soon to ballot the exemption. (The subcommittee chair had set the ballot to be sent out for a vote on 1/1/18, but withdrew it to discuss CPSC staff's testing in the task group meeting.)
- In March 2018, F404-18 was published with an instructional literature update.
- At the May 2018 subcommittee meeting, CPSC staff discussed our testing of one reclined-seat product and the task group's thoughts.
- May through November 2018, CPSC staff ordered five additional reclined-seat products and tested these to the current standard and to the proposals made in the original manufacturer's letter.
- In June 2018, the Commission issued the High Chair Final Rule. The reclined-seat high chair issue was discussed in the briefing package, explaining that staff believed these products should be covered by the rule.
- In the fall of 2018, the reclined-seat exemption ballot was submitted for vote on the ASTM website. (There was no prior task group meeting to discuss the ballot.) The ballot received 4 negatives and seemed unlikely to pass, but at the October 2018 subcommittee meeting the negatives were withdrawn or resolved and the ballot passed.
- In January 2019, F404-18a was published with the reclined-seat exemption.

## **Appendix E. Timeline for the development of new stability standards**

- In March 2019, CPSC staff sent ASTM a letter describing staff's testing of reclined-seat high chairs. CPSC staff also hosted the March task group meeting and demonstrated staff's testing. The March task group meeting was very productive and the group decided to use the sibling interaction test of the bassinet standard as the basis for stability requirements for reclined infant products.
- In April 2019, the high chair subcommittee met via teleconference. The task group determination was presented and received a favorable response.
- ASTM plans by June 1, 2019, to have subcommittee members test and comment on proposed stability requirements.
- ASTM plans by July 1, 2019, that the reclined-seat high chair task group will review comments by the subcommittee.
- ASTM plans by August 1, 2019, that the task group will revise the proposed stability requirements and send them out to the subcommittee again.
- ASTM plans by September 1, 2019, that the task group will have received the second round of comments from the subcommittee.
- ASTM plans by October 2019, to have a draft ballot prepared for discussion at the subcommittee meeting.