



U.S. CONSUMER PRODUCT SAFETY COMMISSION  
4330 East West Highway, Bethesda MD 20814

October 27, 2017

TRANSMITTED VIA EMAIL

Mr. Len Morrissey  
ASTM  
100 Barr Harbor Dr.  
West Conshohocken, PA 19428-2959

Re: CPSC Report to ASTM International F15.71 on Liquid Laundry Packet Injuries

Dear Mr. Morrissey:

This letter provides you with CPSC staff's latest injury data on liquid laundry packet injuries.

***Background***

In 2012, injury incident reports associated with liquid laundry packets began to appear in the surveillance data maintained by the Consumer Product Safety Commission. The main hazards were ingestions that, in the worst case, can lead to fatalities and ocular injuries that require medical assistance. In 2013, CPSC Chairman Inez Tenenbaum requested voluntary action by industry. Within months, ASTM held a kickoff meeting to address the hazards associated with these products, resulting in the publication of the voluntary standard, F3159-15e1, in October 2015. Manufacturers adopted a number of voluntary safety measures through ASTM to address these hazards, including the packaging, labeling, and taste/dissolution properties of liquid laundry packets. The current voluntary standard is ASTM F3159-15e1, *Standard Safety Specification for Liquid Laundry Packets*. By December 2016, these voluntary safety measures were fully implemented by industry (according to ASTM 15.71 participants), with nearly all of the products available for sale to consumers becoming compliant with the voluntary standards in ASTM F3159-15e1.

In evaluating the impact of these standards on safety, the ASTM data sub-team sought to monitor injuries associated with liquid laundry packets before, during, and after implementation of the standards. This report presents the estimated injuries seen in emergency departments associated with liquid laundry packets in the pre-implementation period (defined by the ASTM data sub-team as July 2012 to June 2013). Future reports will examine the transition period (July 2013 to December 2016), as well as the post-implementation period (beginning with calendar year 2017, and to include future calendar years as they become available).

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## ***Method***

The National Electronic Injury Surveillance System (NEISS) is a national stratified probability sample of hospitals in the United States and its territories. There are five strata in the NEISS: children's hospitals, small hospitals, medium hospitals, large hospitals, and very large hospitals. Within each stratum is a sample of hospitals that make up the primary sampling units (PSUs) of the NEISS. For each hospital in the sample, every emergency-department visit associated with a consumer product is recorded. To facilitate injury estimates associated with a product or product group, each injury has a product code that identifies the type of product involved. Information recorded for each injury includes sex, age, diagnosis, disposition, body part, and a brief narrative description of the injury, among other information. The information on stratum, hospital, age, and sex of the patient is known for all observations in this study. Additional information about NEISS can be found online at: <http://www.cpsc.gov/library/neiss.html>.

To identify emergency department-treated injuries associated with liquid laundry packets, CPSC staff searched the following product codes: 949 (Laundry soaps or detergents), 976 (Detergents, not specified), 983 (Soaps, excluding laundry soaps or detergents), and 934 (Dishwasher detergents). Although some of these codes would not appear relevant to liquid laundry packets, staff identified cases that indicated the involvement of liquid laundry packets upon review of the narrative description. The ASTM data sub-team determined that the focus of the analysis would be on children under age 6, although estimates for the population under age 5 are included here as well, because that is a population of particular concern to CPSC as it pertains to the Poison Prevention Packaging Act.

## ***Estimated Injury Department Visits by Children***

Table 1 includes the estimated emergency department visits for children under age 5, children under age 6, and for all ages. The "N" refers to the number of cases used to produce the estimate and the "C.V." refers to the coefficient of variation for the estimate. Most of the injuries occurred to children under age 5, which is why the three figures are so often similar, and at times, identical. To look at shorter time periods than a 1-year period, the initial baseline period was split in half, to allow the initial 6-month periods to be viewed independently. The modest decline in injury estimates between the two periods was not statistically significant. Most of the injuries to children under age 5 and under age 6 were ingestions. There were too few ocular and dermal injuries in the baseline period to produce estimates for children under age 5 and under age 6 using the NEISS publication criteria (which require a minimum number of cases, a minimum estimate and a maximum coefficient of variation). Quarterly injury estimates were not possible for the same reason.

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**Table 1. Estimated Emergency-Department Visits Associated with Liquid Laundry Packets for Children Under Age 5 and Under Age 6 by Time Period and Injury Type**

Injury and time period	Under Age 5			Under Age 6			All Ages		
	N	Est. ED Visits <sup>+</sup>	C.V.	N	Est. ED Visits <sup>+</sup>	C.V.	N	Est. ED Visits <sup>+</sup>	C.V.
All Injuries 7/2012 - 6/2013	166	4,200	0.168	172	4,300	0.179	180	4,500	0.168
All Injuries 7/2012 - 12/2012	82	2,300	0.203	84	2,400	0.221	85	2,400	0.220
All Injuries 1/2013 - 6/2013	84	1,900	0.208	88	1,900	0.205	95	2,200	0.191
Ingestions 7/2012 - 6/2013	138	3,300	0.169	139	3,400	0.169	139	3,400	0.169
Ingestions 7/2012 - 12/2012	67	1,800	0.214	67	1,800	0.214	67	1,800	0.214
Ingestions 1/2013 - 6/2013	71	1,500	0.218	72	1,500	0.217	72	1,500	0.217
Ocular 7/2012 - 6/2013	27	*	*	32	*	*	40	*	*
Dermal 7/2012 - 6/2013	1	*	*	1	*	*	2	*	*

<sup>+</sup>Injury estimates are rounded to the nearest 100 and may not sum to totals due to rounding.

\*Does not meet NEISS criteria for publication, of an estimate of at least 1,200.

### ***Sales Data and Injury Rates***

CPSC received aggregated point-of-sale data from Nielsen, via the Rocky Mountain Poison and Drug Center, which were needed to provide context to determine changes in injury risks. Table 2 shows the sales in both units (which include multiple laundry packets), and in total number of packets. The data are compiled in 4-week intervals, and thus, the data can be aggregated similarly (but not identically) to the periods of interest.

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**Table 2. Sales of Laundry Packets by Unit and Total Number of Packets by Time Period**

Time Periods	Units (in millions)	Number of Packets (in millions)
6/24/2012 - 1/5/2013	30.054	1,044
01/06/2013 - 06/22/2013	28.021	1,007
6/24/2012 - 6/22/2013	58.075	2,051

Table 3 combines the unrounded emergency department-visit estimates used to produce Table 1 with the sales figures in Table 2 to produce emergency department-visits rates, per million units sold, and per million packets sold.

**Table 3. Estimated Emergency Department-Visit Rates by Unit and Total Number of Packets**

Injury and time period	Under Age 5		Under Age 6		All Ages	
	Est. ED Visits per 1 million units	Est. ED Visits per 1 million packets	Est. ED Visits per 1 million units	Est. ED Visits per 1 million packets	Est. ED Visits per 1 million units	Est. ED Visits per 1 million packets
All Injuries 7/2012 - 6/2013	72	2.0	74	2.1	78	2.2
All Injuries 7/2012 - 12/2012	76	2.2	79	2.3	79	2.3
All Injuries 1/2013 - 6/2013	68	1.9	69	1.9	77	2.1
Ingestions 7/2012 - 6/2013	58	1.6	58	1.6	58	1.6
Ingestions 7/2012 - 12/2012	60	1.7	60	1.7	60	1.7
Ingestions 1/2013 - 6/2013	55	1.5	55	1.5	55	1.5

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### *Injury Severity*

Table 4 shows the disposition for all of the injuries seen in the baseline period (July 2012 to June 2013). The treated-and-released category was the only one large enough to produce a publishable NEISS estimate. Therefore, only percentages are shown.

Disposition	Under Age 5	Under Age 6	All Ages <sup>+</sup>
Treated and Released	82%	83%	84%
Admitted, Transferred, or Held for Observation	15%	14%	14%
Left Without Being Seen	3%	3%	3%

<sup>+</sup>Percentages may not round to totals due to rounding.

Sincerely,

Stephen Hanway  
Director, Division of Hazard Analysis  
Directorate for Epidemiology

Cc: Patricia L. Edwards, CPSC Voluntary Standards Coordinator

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