

# Pediatric Poisoning Related to Laundry Detergent Packets

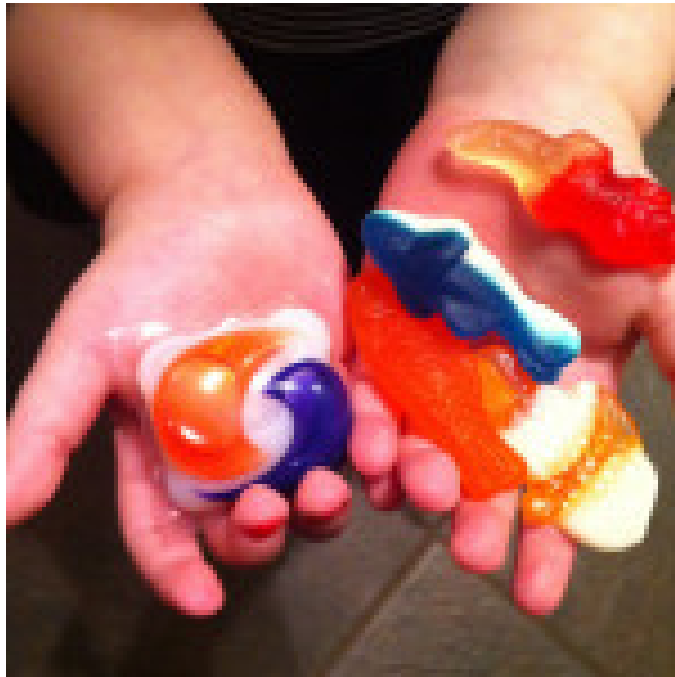
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# Presenter Disclosure

Presenter: Gary A. Smith, MD, DrPH

Conflicts of Interest: The presenter has no relationships with commercial interests or other conflicts of interest to disclose

# Laundry Detergent Packets Poisoning



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*When your child needs a hospital, everything matters.*

# Study Published in *Pediatrics* in November 2014

ARTICLE

## Pediatric Exposure to Laundry Detergent Pods

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**KEY WORDS**

detergent pod, ingestion, NPDS, poisoning, poison control center



**WHAT'S KNOWN ON THIS SUBJECT:** Case studies, abstracts, and small-sample research studies have shown that laundry detergent pods pose important poisoning risks to young children.



**WHAT THIS STUDY ADDS:** From 2012 through 2013, 17 230 children exposed to laundry detergent pods were reported to US poison control centers. Among children exposed, 4.4% were hospitalized and 7.5% experienced a moderate or major medical outcome, including 1 confirmed death.



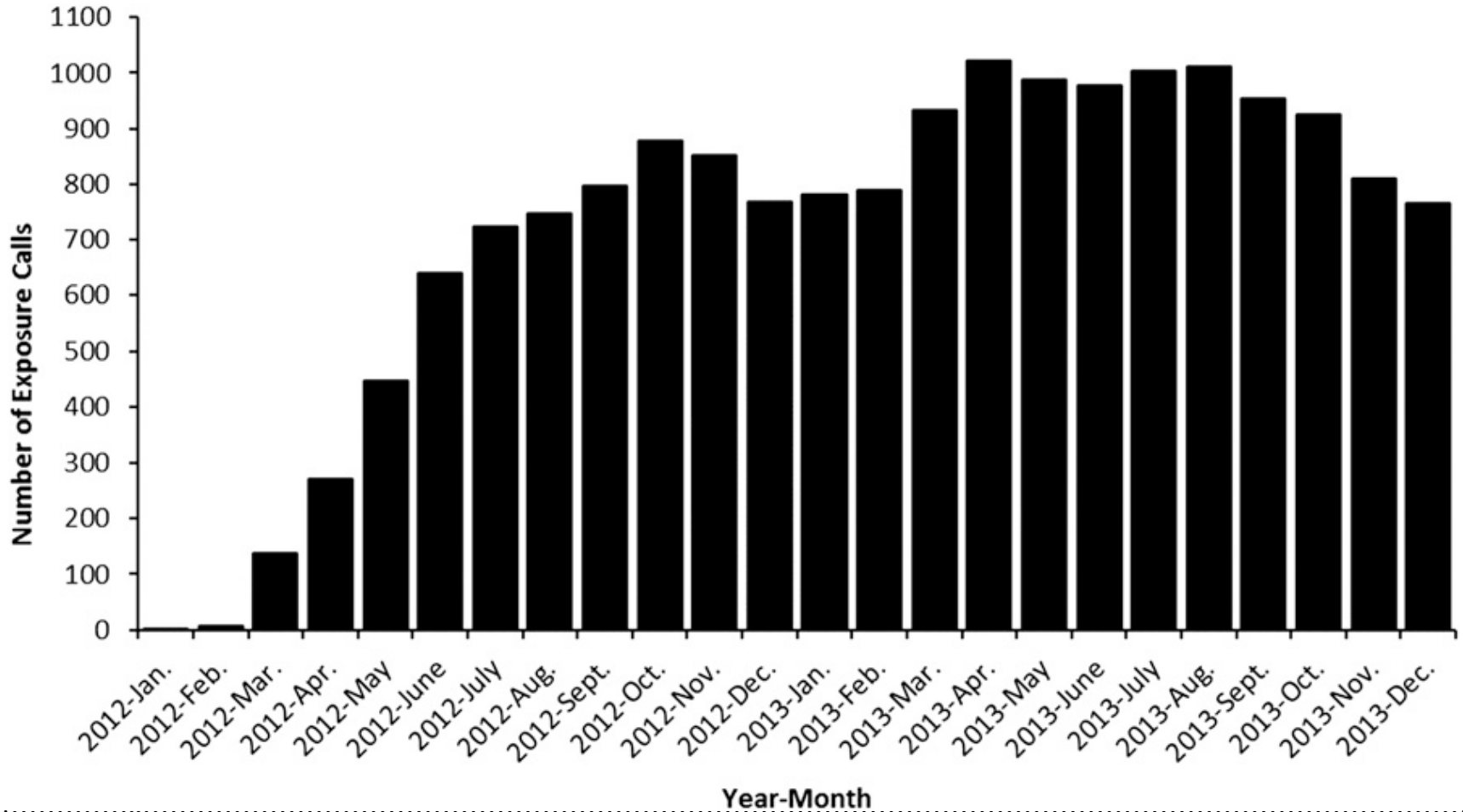
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# Study Findings

- Data source: National Poison Data System 2012 - 2013, AAPCC
- 17,230 children < 6 years old
- 74% were < 3 years old
- 80% exposed via ingestion
- 4.4% were hospitalized
- 7.5% had a moderate or major medical outcome
- 102 required tracheal intubation
- 1 confirmed death
- Magnitude is underestimated: voluntary reporting, delayed NPDS product codes, may not include manufacturer hotline cases

# Number of Exposures



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Earned media audience of > 1.05 billion



# Additional Actions

- Introduction of legislation in the U.S. House and Senate, as well as state legislation
- Study findings used by Canada, New Zealand, and Sweden in their efforts to address this emerging poisoning hazard
- Organization for Economic Cooperation and Development launched a global awareness campaign on the topic

# Detergent Poisoning and Child Safety Act of 2015



- Lead sponsors: Rep. Jackie Speier (D-CA), Sen. Richard Durbin (D-IL), Sen. Bill Nelson (D-FL)
- CPSC to review ASTM standard under development
- If voluntary standard inadequate, then CPSC may pursue regulation addressing:
  - Packets must meet PPPA
  - Design & color changes to reduce attractiveness
  - Packet composition
  - Warning labels

# Detergent Poisoning and Child Safety Act of 2015

“Making the design and color of packets less appealing to children, making safer, child-resistant packaging and adding proper warning labels are common-sense protections for consumers similar to those for countless other household products. We can still have convenience without sacrificing safety for children and families.”

- Senator Richard Durbin (D-IL), February 2015

# New York Detergent Packet Poisoning Legislation 2018



- New York State Legislature – February 2018 (follows legislation introduced in 2015)
- Sponsors: Assemblywoman Aravella Simotas and Sen. Brad Hoylman
- Individually wrap each packet
- Warning labels
- Change colorful designs to make less appealing to children

# ASTM F3159-15 Standard Safety Specification for Liquid Laundry Packets



Designation: F3159 – 15

## Standard Safety Specification for Liquid Laundry Packets<sup>1</sup>

This standard is issued under the fixed designation F3159; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### INTRODUCTION

In November 2012 the U.S. Consumer Product Safety Commission (CPSC) issued a Safety Alert to inform parents and caregivers that Liquid Laundry Detergent Packets need to be kept away from children as those who are exposed to packet contents are at risk of serious injury and even death due to the highly concentrated nature of the product. Children who have accidentally ingested Liquid Laundry Detergent Packets have experienced a range of injuries including loss of consciousness, respiratory distress, vomiting, coughing, choking and drowsiness, and in cases where there has been contact with the eyes, painful irritation of the eyes and corneal burns have occurred. In addition, death has been reported to occur following ingestion of Liquid Laundry Detergent Packets, including in one child.

### 1. Scope

1.1 This specification provides requirements for household Liquid Laundry Detergent Packet safety to help reduce unintentional exposures to the contents of the packets, especially to children.

1.2 This standard applies exclusively to household Liquid Laundry Detergent Packets. "Liquid Laundry Detergent Packets" are single-use laundry detergent products that contain a liquid detergent enclosed in a water soluble outer layer ("pouch film"). This includes laundry detergent packets in soluble film that contain liquid only (that is, all liquid), as well as those that contain both liquid and non-liquid components.

1.3 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

### 2. Referenced Documents

- 2.1 *ASTM Standards*:<sup>2</sup>  
D3475 Classification of Child-Resistant Packages  
D4359 Test Method for Determining Whether a Material Is a Liquid or a Solid

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee F15 on Consumer Products and is the direct responsibility of Subcommittee F15.71 on Liquid Laundry Packets. Current edition approved Sept. 15, 2015. Published October 2015. DOI: 10.1520/F3159-15.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.

### 2.2 *ANSI Standard*:<sup>3</sup>

ANSI Z535.4 Safety Color Code—Environmental Facility Safety Signs—Criteria for Safety Symbols—Product Safety Sign and Labels and Accident Prevention Tags

### 3. Terminology

#### 3.1 Definitions:

3.1.1 *liquid, n*—a substance or mixture which: (1) at 50°C has a vapour pressure of not more than 300 kPa (3 bar), (2) which is not completely gaseous at 20°C and at a standard pressure of 101.3 kPa, and (3) which has a melting point or initial melting point of 20°C or less at a standard pressure of 101.3 kPa.

3.1.1.1 *Discussion*—A viscous substance or mixture for which a specific melting point cannot be determined shall be subjected to the Test Method D4359-90 test; or to the test for determining fluidity (penetrometer test) prescribed in section 2.3.4 of Annex A of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

3.1.2 *liquid laundry detergent packets, n*—individual packets that contain liquid laundry detergent and are intended to dissolve when used as intended.

3.1.3 *pouch film, n*—the water-soluble outer layer of a Liquid Laundry Detergent Packet that contains laundry detergent or other liquid ingredients, or both, and is designed to dissolve when used as intended.

<sup>3</sup> Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.



# Laundry Detergent Packets Poisoning



# Study Published in *Pediatrics* in April 2016

## PEDIATRICS

### Pediatric Exposures to Laundry and Dishwasher Detergents in the United States: 2013–2014

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**OBJECTIVE:** This study analyzes and compares pediatric exposures to packet and nonpacket forms of laundry and dishwasher detergents in the United States.

**METHODS:** Data from the National Poison Data System involving exposures to laundry and dishwasher detergents among children younger than 6 years old from 2013 through 2014 were analyzed.

**RESULTS:** There were 62 254 children younger than 6 years old exposed to laundry and dishwasher detergents from 2013 to 2014. The number of exposures to detergent increased over the study period, but the increase was greatest for laundry detergent packets (17.0%) and dishwasher detergent packets (14.0%). Eighty-five percent of children were exposed through ingestion. The odds of clinical effects (3.9–8.2), hospitalization (4.8–23.5), intubation (6.9–71.3), and serious medical outcomes (8.4–22.6) were significantly higher for laundry detergent packet exposures than for other types of detergent. There were 117 children who required intubation, and 104 of these were exposed to laundry detergent packets. There were 2 deaths, and both were associated with laundry detergent packets.

**CONCLUSIONS:** This national study demonstrates that pediatric laundry detergent packet exposures are more severe than laundry detergent nonpacket and dishwasher detergent (packet and nonpacket) exposures. Pediatric exposures to laundry detergent packets increased by 17% during the study period nationally and should be closely monitored to assess the effectiveness of the newly adopted voluntary safety standard; this standard should be strengthened if the number of exposures does not demonstrate a substantial decrease.

[abstract](#)



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# Study Findings

- Data source: National Poison Data System 2013 - 2014, AAPCC
- 62,254 children < 6 years old
- 85% exposed via ingestion
- Laundry detergent packet exposures had greater odds compared with other types of detergent for the following:
  - Clinical effects (OR: 3.9 - 8.2)
  - Hospitalization (OR: 4.8 - 23.5)
  - Tracheal intubation (OR: 6.9 - 71.3)
  - Serious medical outcomes (OR: 8.4 - 22.6)
- 117 tracheal intubations (104 were laundry detergent packet exposures)
- 2 confirmed deaths



# Study Published in *Pediatrics* in April 2016

## TOTAL MEDIA STATS

<b>\$2,809,697</b> Ad Value	<b>1,833,215,412</b> Audience	<b>1,050</b> Total Hits
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## COVERAGE HIGHLIGHTS

### TV

- National television coverage included:
  - The Today Show
  - NBC Nightly News
  - NBC Newschannel coverage resulting in syndicated airings across the country
- **91 airings** in top 25 markets, including:
  - WNBC-TV, New York, NY (DMA#1)
  - KNBC-TV, Los Angeles, CA (DMA#2)
  - WFLD-TV, Chicago, IL (DMA#3)
  - WPVI-TV, Philadelphia, PA (DMA#4)
  - KXAS-TV, Dallas, TX (DMA#5)
  - KNTV-TV, San Francisco, CA (DMA#6)

### Online

- MSN
- Yahoo News
- Wall Street Journal Online
- ABC News Online
- NBC News Online
- Forbes.com
- FOX News Channel Online
- Reuters Online
- WebMD
- U.S. News & World Report
- Bloomberg News Online

### Radio

- WOR-AM, New York, NY (DMA#1)
- KNX-AM, Los Angeles, CA (DMA#2)
- KRLD-AM, Dallas, TX (DMA#5)
- WBZ-AM, Boston, MA (DMA#8)
- WTVN-AM, Columbus, OH (DMA#31)
- WLW-AM, Cincinnati, OH (DMA#36)

# Effects of Safety Interventions on Liquid Laundry Detergent Packet Exposures Among US Children

Gaw CE, Spiller HA, Casavant MJ, Chounthirath T, Smith GA

- The number, rate, and severity of liquid laundry detergent packet exposures have decreased in recent years among children <6 years old, likely attributable, in part, to the voluntary product safety standard and public awareness efforts.
- In contrast, exposures among older children and adults are increasing.
- Opportunities exist to strengthen the current product safety standard to further reduce liquid laundry detergent packet exposures.

# Why Do Products Continue to Threaten the Wellbeing of Children?

- Voluntary standards process is dominated by industry and is weakened by conflicts of interest
- Government regulatory agencies have inadequate resources and authority. CPSC has restrictions on public disclosure of information (CPSA, Section 6b)
- We live in a world in which our products and environments are designed by adults for the convenience of adults, and child safety is often an afterthought
- System is reactive – Children are canaries in a coal mine
- Injuries are viewed differently than other public health problems by policy makers and the public

# Thank You

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