



# ANALYZING SAFETY RECALLS OF CHILDREN'S PRODUCTS

A UL Report – August 2017





Perhaps no other category of products is subject to greater regulatory scrutiny than those intended for use by children and infants. Most jurisdictions around the world require that toys, juvenile articles and other children's products meet rigorous safety requirements intended to help reduce the risk of injury or illness among this highly vulnerable population. Testing and certification by qualified third parties are often required to validate compliance with these safety requirements.

Yet, despite stringent requirements and mandatory safety testing, unsafe children's products continue to reach the market. In the U.S., children's products represented 23 percent of all product recalls announced in 2016.<sup>1</sup> And in the European Union (EU), toys remain the single largest category of non-food products identified as unsafe under the EU's Rapid Alert System (RAPEX) for dangerous products, accounting for 26 percent of more than 2,000 unsafe products identified in 2016.<sup>2</sup>

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**IN THE U.S., CHILDREN'S PRODUCTS REPRESENTED 23 PERCENT OF ALL PRODUCT RECALLS ANNOUNCED IN 2016.<sup>1</sup>**

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For manufacturers of children's products, product recalls represent the primary mechanism for removing products from the market that have been identified as posing a risk of injury or illness to children. Because detailed information on recalled products is routinely collected by regulatory authorities, recall data provides an untapped resource that can help us to better understand the underlying factors that make children's products unsafe, as well as the actions we can take to improve the safety of children's products.

This white paper reviews the results of UL's global survey of children's products subject to recall during the 2016 calendar year due to safety-related issues. The paper also proposes steps based on survey data that manufacturers, distributors and retailers of children's products can take to improve the overall safety of their products, thereby reducing the incidence of recalls and their associated risk. The white paper concludes with a discussion of UL's overall efforts to improve the safety of children's products.

# THE RISKS OF UNSAFE CHILDREN’S PRODUCTS

Toys, juvenile articles and other products are a major cause of injuries among children and infants. In the U.S. alone, an estimated 245,000 toy-related injuries were treated in hospital emergency departments in 2015 (the latest year for which U.S. government data is available), resulting in 11 deaths of children younger than 15 years old.<sup>3</sup> And a 2014 analysis of data from the European Injury Data Base (IDB) indicates that approximately 230,000 children in the EU require emergency medical treatment annually due to injuries from toys, playground equipment and other articles intended for use by children and infants.<sup>4</sup>

Some statistics of particular interest are those related to injuries associated with the use of one particular group of children’s products – nursery products. According to a 2017 study, an estimated 1.4 million children in the U.S. under the age of three received emergency room treatment for injuries connected with nursery products, such as baby carriers, cribs, mattresses, strollers and walkers during a 20-year period from 1991 to 2011. Eighty percent of the injuries were reportedly linked to falls, and nearly half resulted in injuries to the head or neck. More than half of all reported injuries occurred with infants under the age of one.<sup>5</sup>

Although there are many potential risks associated with toys and other children’s products, most fall into one of the following hazard categories:

- **CHOKING HAZARDS:**  
Small parts can be swallowed and become lodged in the throat or air passageways.
- **STRANGULATION AND SUFFOCATION HAZARDS:**  
Attached cords and strings can become wrapped or entangled around the throat or chest. Insufficiently-sized openings in furniture can lead to entrapment and suffocation.
- **PUNCTURE AND LACERATION HAZARDS:**  
Stationary or movable parts that are pointed or sharp can cut or puncture the skin or inflict injury to the eyes or face.
- **PROJECTILE HAZARDS:**  
Projectiles launched from toy guns and other devices can strike with sufficient force to cause injury.
- **BLUNT FORCE AND FALL HAZARDS:**  
Structural failures in nursery and furniture products can result in falls. Children riding non-motorized vehicles and scooters can crash into walls and hard surfaces or be hit by other vehicles.
- **FIRE AND ELECTRICAL SHOCK HAZARDS:**  
Faulty electrical components can result in electrical shock or fire. Flammable materials can ignite when they come in contact with an open flame or another heat source.
- **INGESTION AND INHALATION HAZARDS:**  
Unsafe chemicals in children’s products can be transmitted through the skin, inhaled through off-gassing or ingested through the swallowing of small parts.

Despite important changes in recent years to regulations intended to reduce these and other safety risks associated with children’s products, the annual number of product recalls has remained persistently high or increased.

**IN THE U.S. IN 2016, RECALLS OF CHILDREN’S PRODUCTS ACTUALLY GREW BY 12 PERCENT OVER 2015’S LEVELS, COVERING A RECORD 67 MILLION INDIVIDUAL ITEMS.<sup>6</sup>**

In the EU in 2014, the number of notifications on unsafe toys, childcare articles and children’s equipment spiked to 731, but has since remained constant at 641 in both 2015 and 2016.<sup>7</sup>



# UL'S GLOBAL ASSESSMENT OF CHILDREN'S PRODUCT RECALLS IN 2016

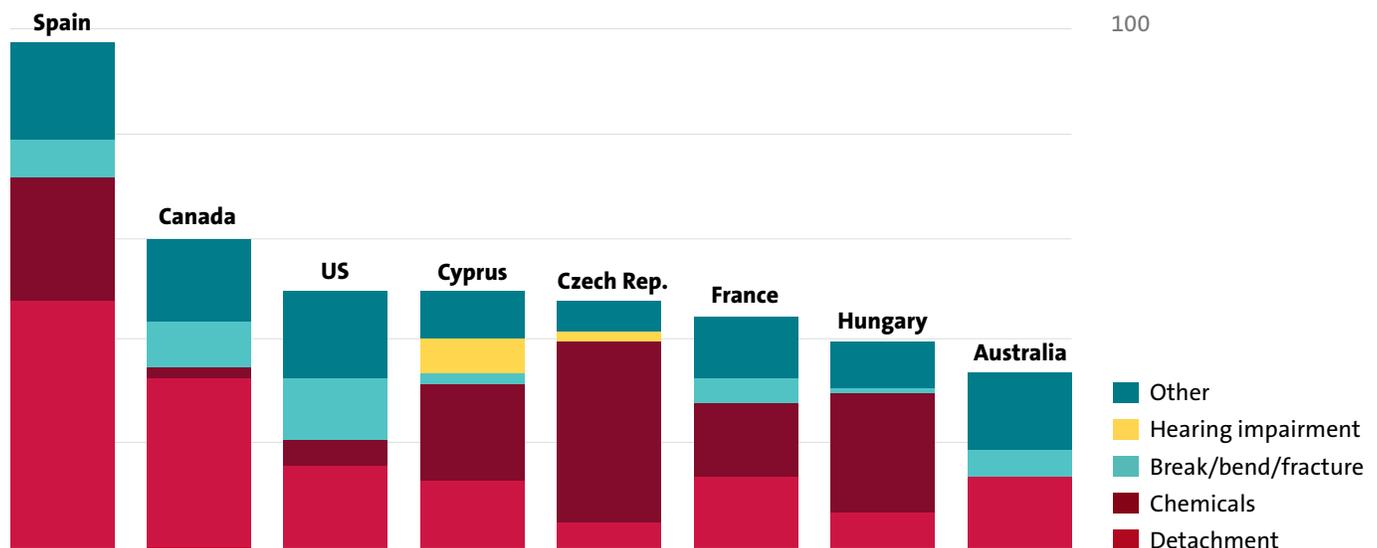
A better understanding of the root causes of safety risks associated with children's products can help manufacturers identify potential problems during the product design phase, well in advance of their products being placed on the market. To support that effort, UL researchers have recently completed a comprehensive, worldwide review of product safety-related recalls of children's products as reported to regulatory authorities during the calendar year 2016. This review, believed to be the first of its kind to evaluate product safety recalls on a global basis, yields important insights into the specific factors in recalled products that rendered them unsafe, potentially providing manufacturers with important guidance in making their products safer and less prone to recall.

## SCOPE OF UL'S RECALL ASSESSMENT

UL's review of 2016 recalls of children's products encompassed every country that publishes consumer product recall information online, including the U.S., EU member states, China, Japan, Canada, Mexico, Australia and most other major industrialized nations. Our review included an analysis of 702 individual product recalls involving toys, juvenile products, such as cribs, strollers, high chairs, protective gates and enclosures, and other children's products such as pacifiers and jewelry. Specific data we reviewed for each individual recall included the number of product units covered by the scope of the recall, the nature of the product defect that resulted in the recall and any reports of injuries or deaths associated with the recalled products. All recall data was derived from publicly-accessible online databases maintained by the regulatory authorities we surveyed.<sup>8</sup>

In an analysis of recalls by country of origin, Spain originated the highest number of recalls in 2016 with 98. Other countries, from which large number of recalls originated, include Canada (with 60), the U.S. (50), Cyprus (50), the Czech Republic (48), France (45) and Hungary (40). Mexico originated the smallest number of product recalls evaluated in the review with just one.

## PRODUCT RECALLS BY COUNTRY & ISSUE





## GENERAL FINDINGS

Overall, more than 60 percent of the recalls (419) we evaluated were accounted for by just 10 specific types of children's products, as follows: action figures and dolls; plastic toys; projectile toys; audio and visual devices; stuffed/plush toys; gates and enclosures; dress-up costumes; rattles; strollers; and bikes, scooters and other ride-ons. The principal areas of product risk identified in our analysis included small parts, heads, plastic components and furniture/carrier frames. Specific safety issues including detachment of parts, chemical content, breaks or fractures and entrapment accounted for more than two-thirds of the specific issues identified.

For the 702 product recalls we evaluated, consumers experienced a total of 3,115 separate safety-related incidents. These incidents resulted in 273 injuries, but no deaths. Just four of the recalled products (two different models of bunk beds, a baby monitor and a plastic drinking cup) accounted for nearly three-quarters (2,272) of the total number of safety-related incidents reported, but just 21 injuries.

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### **WE OBSERVED A SIGNIFICANT INCREASE IN THE NUMBER OF RECALLS IN CHILDREN'S PRODUCTS DURING THE FOURTH QUARTER OF 2016.**

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We observed a significant increase in the number of recalls in children's products during the fourth quarter of 2016. During this three-month period from October through December, 235 individual recalls were recorded (a full third of the total recalls for the year) and a 35 percent increase in the number of recalls recorded during the July-September period. This trend correlates with the increase in the sale of children's products leading up to the holiday season and potentially indicates increased vigilance by enforcement authorities.

Further details of recalls evaluated in each product category are discussed in the following subsections.

## TOYS

The number of 2016 recalls of products in the toy category was 540, representing nearly 77 percent of the recalls evaluated in our assessment. Recalls included 31 specific types of toys, but four specific toy types accounted for half of all toy recalls: action figures and dolls (132); plastic toys (46); projectile toys (42); and audio and visual devices (41). The largest number of toy products covered in a single recall was 325,000 units (related to a recalled toy vehicle sold with a defective USB charging cord), but the average number of units per recall in the toy product category was just over 26,500.

Twenty-three principal areas of product risk were identified in our analysis of toy recalls with four areas (small parts, heads and plastic components) representing more than 60 percent of all issues. Detachment of parts and chemical content were identified as the specific product safety concern in nearly 64 percent of the toy recalls we evaluated.

Although the number of toy recalls dominated all other categories of children’s products evaluated in our assessment, recalls in the toy category accounted for just 137 of the total

number of incidents reported, less than five percent of the total for all children’s products. Further, only three injuries were connected with recalled toys, just one percent of all reported injuries.

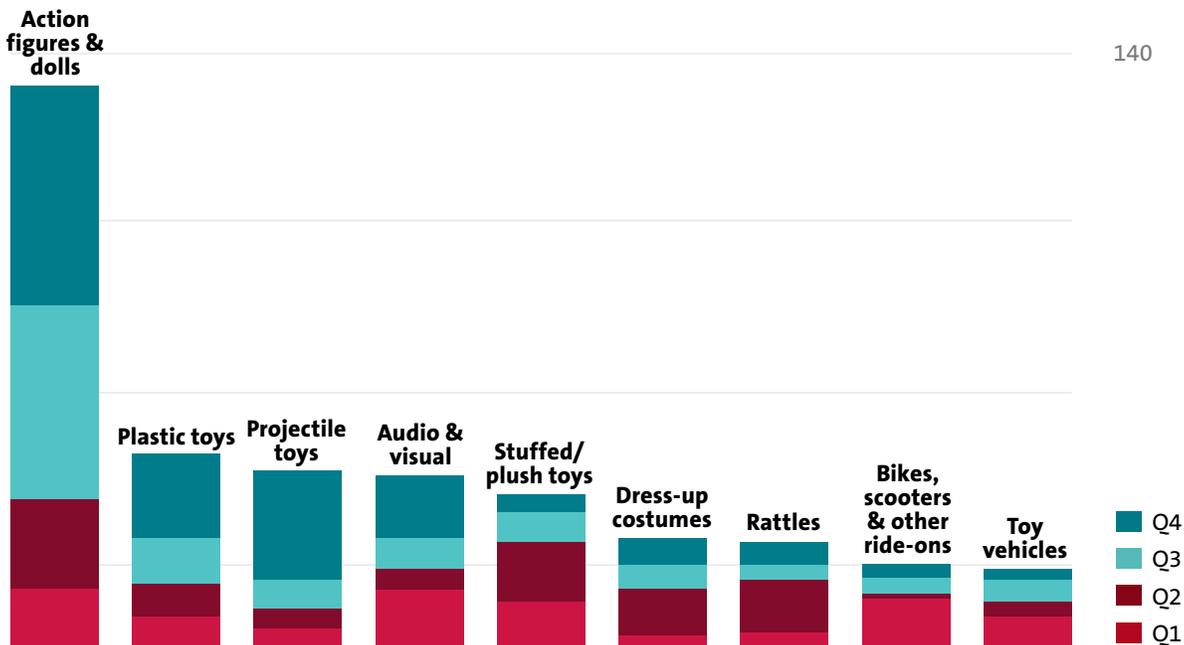
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### THE LARGEST NUMBER OF PRODUCT RECALLS IN THE TOY CATEGORY IN 2016 WERE AMONG ACTION FIGURES AND DOLLS.

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The largest number of product recalls in the toy category in 2016 were among action figures and dolls. This specific toy type accounted for 132 product recalls, nearly 25 percent of all toy recalls. Chemical content (most often phthalates) was the dominant product safety issue associated with these products and was identified in 112 recalls, most frequently in connection with the heads of the action figures and dolls. The second greatest number of recalls of action figures and dolls involved the detachment of a component, posing a potential small parts choking hazard.

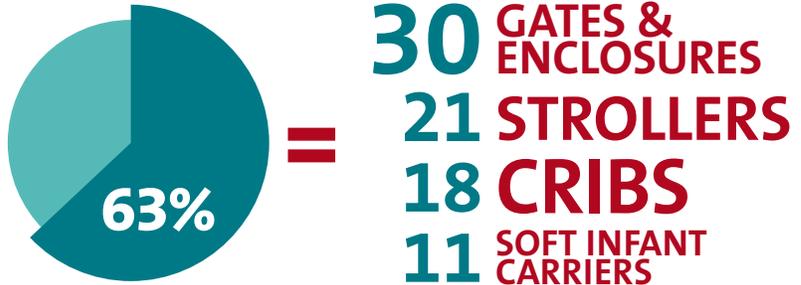
#### TOY RECALLS TOP PRODUCT CATEGORIES





## JUVENILE PRODUCTS

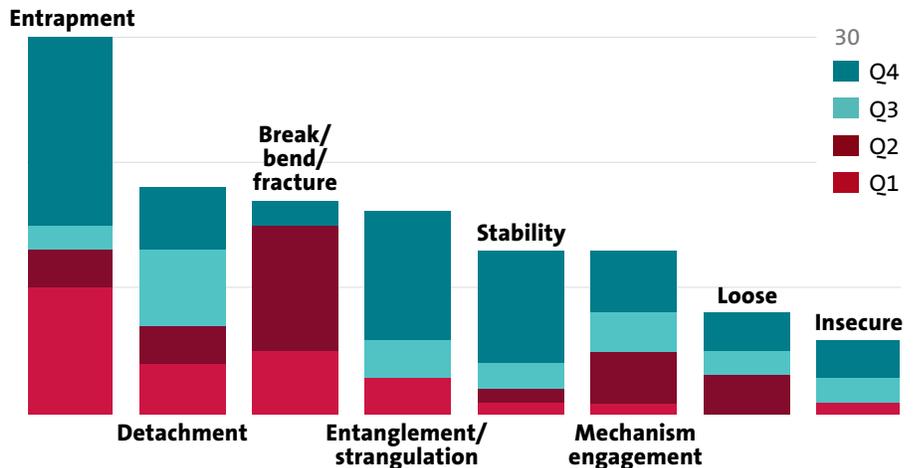
The category of juvenile products encompasses a number of different types of carriers, furniture and furnishing accessories used for the bathing, changing, feeding, seating, transporting and sleeping of children and infants. In this category, we identified and evaluated a total of 126 recalls (about 18 percent of all children’s product recalls analyzed) covering 18 specific types of products, such as: cribs, cradles, bassinets, toddler beds and bunk beds; soft infant carriers, strollers and frame carriers; and bath tubs, bath seats, booster seats and room gates and enclosures. Of these product types, four dominated the list, accounting for 63 percent of all juvenile product recalls: gates and enclosures (30 recalls); strollers (21); cribs (18); and soft infant carriers (11).



The single largest recall in the category of juvenile products was an infant tub with fabric slings designed to hold the tub in place that could accidentally detach. In this case, the voluntary recall initiated by the company covered 86,000 units. However, the average number of units per recall was just under 16,900.

Fourteen principal areas of product risk were identified in our analysis of juvenile products with four areas (frame, locking mechanism, seat and buckle/harness) representing 65 percent of all issues. The leading product safety issues included entrapment, entanglement/strangulation, break/bend/fracture, detachment and fall hazard, but many recalls were associated with multiple product safety issues. Problems with gates and closures were typical of products in this category with half of those recalls related to entrapment hazards.

### JUVENILE PRODUCT TOP RECALL ISSUES



While juvenile products accounted for fewer than one in five of the recalls we evaluated, recalled juvenile products were clearly the most dangerous. Nearly 2,000 separate incidents were recorded in connection with recalled juvenile products (more than 63 percent of the total), and recalled juvenile products accounted for 266 injuries or more than 97 percent of the injuries recorded for all categories of children's products reviewed in our assessment.

## **OTHER CHILDREN'S PRODUCTS**

The final product category of our assessment consists of what we defined as "other children's products." Specific products in this category include children's jewelry, pacifiers and pacifier holders, and school supplies. We reviewed a total of 36 recalls of products in this category, totaling to about five percent of all 2016 recalls we evaluated.

The single largest recall in this category was also the single largest recall across our entire assessment. This recall involved approximately 3.6 million activity wrist bands which were recalled due to concerns regarding skin irritation or burns. The second largest recall in the category covered about 227,000 spill-proof sippy cups due to a risk of mold formation within the cup.

Eight principal areas of product risk were identified among the recalls of other children's products that we evaluated, but recalls associated with components represented 64 percent of all issues. This category also saw the most diverse allocation of product safety issues, including detachment, break/bend/fracture, chemicals and choking hazards – but no single issue dominating the category.

Although recalls of other children's products represented the smallest category of recalls that we evaluated in our assessment, they were responsible for 1,004 separate incidents, about 32 percent of the total number of incidents across all children's products. However, this large number of incidents resulted in just four reported injuries, a little more than one percent of the total number of injuries reported.

## **REDUCING PRODUCT RECALLS AND THEIR IMPACT**

Clearly, children's products that are the focus of mandatory or voluntary recalls pose critical health and safety risks to children. UL's 2016 assessment of children's products recalled that year determined that these products were responsible for 273 reported injuries. Of course, the actual number of injuries may well be greater since companies differ in their data collection methods, and since many injuries and illnesses go unreported.



But product recalls also exact significant economic consequences on manufacturers, distributors and retailers. First, there is the direct cost associated with the recall process, which often involves refunding the original purchase price, as well as the collection, disposal or destruction of recalled products. Then, there is the loss of future projected sales revenue, both for the recalled product and potentially for comparable products offered by the company.

Similarly, product recalls can also result in damage to a company's reputation in the marketplace and among consumers, driving them to consider alternative brands and products or to completely dismiss a company's products outright due to general concerns about safety.

Finally, litigation associated with defective products that have been recalled can result in significant legal costs, not to mention potential financial settlements with plaintiffs who have been harmed.

To reduce the risk of injury, as well as the financial consequences of product recalls, the majority of manufacturers of children's products actively seek to ensure that their products are compliant with all applicable regulations and standards before placing them on the market. This approach not only helps to reduce the likelihood of a product being recalled, but it may also support claims that a manufacturer took all reasonable measures to ensure the safety of its products.

Ironically, our assessment of children's product recalls revealed that the vast majority of recalled products actually meet all applicable regulations and standards. To illustrate this point, in an evaluation of recalls in the U.S. between 2012 and 2016 conducted by the U.S. Consumer Product Safety Commission (CPSC), 90 percent of products subject to recall were tested and found to be in compliance with mandatory safety requirements.<sup>9</sup> This finding strongly suggests that mere compliance alone is not enough to sufficiently reduce the risk of unsafe children's products getting to market.

Conducting a formal assessment of foreseeable potential safety risks during the design phase of new product development can greatly improve the overall safety of children's products and reduce the risk of recalls once a product has been introduced. At a minimum, a formal risk assessment seeks to identify the possible safety risks associated with a given product, assess the likelihood of their occurrence and evaluate potential consequences that could accompany each risk. With this information in hand, manufacturers are better positioned to make informed decisions on how best to mitigate potential risks from their products under actual use conditions, enabling them to place safer products on the market and reducing the likelihood of costly product recalls.





# SUMMARY + CONCLUSION

UL's global assessment of children's product recalls in 2016 provides important information regarding the specific safety issues that have resulted in product safety recalls. To help ensure the ongoing value of this research, UL will continue to track safety recalls of children's products in 2017 and beyond. Our goal is to make UL's assessment of children's product recalls the most complete and comprehensive assessment resource available for manufacturers seeking to understand the potential safety risks associated with their products.

UL is an accredited third-party testing laboratory under the U.S. Consumer Product Safety Improvement Act (CPSIA) and a Notified Body under the EU's Toy Safety Directive and Low Voltage Directive. In addition, UL's global network of testing laboratories perform testing to product safety requirements applicable to children's products in jurisdictions around the world.

For more information about UL's assessment of children's product recalls or UL's children's product safety testing, visit [WWW.UL.COM/CONSUMER-RETAIL-SERVICES/EN/INDUSTRIES/TOYS](http://WWW.UL.COM/CONSUMER-RETAIL-SERVICES/EN/INDUSTRIES/TOYS) or contact Jennifer Buoniconti ([JENNIFER.A.BUONICONTI@UL.COM](mailto:JENNIFER.A.BUONICONTI@UL.COM)).





# END NOTES

Analyzing Safety Recalls of Children's Products, research contributor, Brian Grochal, Global Technical Lead – Juvenile Products, UL, Consumer & Retail Services.

<sup>1</sup> "A KID Report Card: Children's Product Recalls in 2016," a report prepared by the non-profit Kids in Danger (KID), March 2017. Web. 4 April 2017. [http://www.kidsindanger.org/docs/research/KID\\_2017\\_Annual\\_Report\\_040317.pdf](http://www.kidsindanger.org/docs/research/KID_2017_Annual_Report_040317.pdf).

<sup>2</sup> "Rapid Alert System for Dangerous Products, 2016 Annual Report," Commission of the European Union. Web. 4 April 2017. [http://ec.europa.eu/consumers/consumers\\_safety/safety\\_products/rapex/alerts/repository/content/pages/rapex/reports/docs/rapex\\_annual\\_report\\_2016\\_en.pdf](http://ec.europa.eu/consumers/consumers_safety/safety_products/rapex/alerts/repository/content/pages/rapex/reports/docs/rapex_annual_report_2016_en.pdf).

<sup>3</sup> "Toy-Related Deaths and Injuries Calendar Year 2015," U.S. Consumer Product Safety Commission, November 2016. Web. 1 March 2017. [https://www.cpsc.gov/s3fs-public/Toy\\_Report\\_2015\\_0.pdf](https://www.cpsc.gov/s3fs-public/Toy_Report_2015_0.pdf).

<sup>4</sup> "Injuries in the European Union: Summary of Injury Statistics for the Years 2010-2012," a report published by the European Association for Injury Prevention and Safety Promotion (EuroSafe), 2014. Web. 4 April 2017. [http://www.eurosafe.eu.com/uploads/inline-files/IDB\\_Report\\_2014\\_final%202010-2012.pdf](http://www.eurosafe.eu.com/uploads/inline-files/IDB_Report_2014_final%202010-2012.pdf).

<sup>5</sup> "Nursery Product-Related Injuries Treated in United States Emergency Departments," Gaw et.al., Pediatrics Magazine, March 2017. Web. 4 April 2017. <http://pediatrics.aappublications.org/content/early/2017/03/09/peds.2016-2503>.

<sup>6</sup> "A KID Report Card: Children's Product Recalls in 2016," see Note #1 above.

<sup>7</sup> "Rapid Alert System for Dangerous Products, 2016 Annual Report," see Note #2 above.

<sup>8</sup> Data for individual product recalls reviewed by UL for this survey was derived from publicly-available online databases maintained by regulatory authorities, including the following:

- **U.S.** – Consumer Product Safety Commission (CPSC), <https://www.cpsc.gov/Recalls>
- **EUROPEAN UNION** – EU's Rapid Alert System for dangerous non-food products, [https://ec.europa.eu/consumers/consumers\\_safety/safety\\_products/rapex/alerts/](https://ec.europa.eu/consumers/consumers_safety/safety_products/rapex/alerts/)
- **CANADA** – Health Canada, [http://healthycanadians.gc.ca/recall-alert-rappel-avis/search-recherche/simple?s=&plain\\_text=&js\\_en=&page=5](http://healthycanadians.gc.ca/recall-alert-rappel-avis/search-recherche/simple?s=&plain_text=&js_en=&page=5)
- **AUSTRALIA** – Product Safety Australia, <https://www.productsafety.gov.au/recalls/browse-all-recalls>
- **JAPAN** – Consumer Affairs Agency, <http://www.recall.go.jp/>
- **FRANCE** – DG CCRF, <https://www.economie.gouv.fr/dgccrf/Securite/Alertes/Avis-rappels-de-produits>
- **NETHERLANDS** – Food and Consumer Product Safety Authority, <https://www.nvwa.nl/>
- **BELGIUM** – FAVV, <http://www.afsca.be/productterugroepingen/>
- **PHILIPPINES** – Food and Drug Administration, <http://www.fda.gov.ph/>

<sup>9</sup> Presentation by the U.S. Consumer Product Safety Commission (CPSC) Office of Compliance, February 1, 2017.