



# Trouble in Toyland

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The 30th Annual Survey of Toy Safety

November 2015

**OSPIRG**  
Foundation

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The 30th Annual Survey of Toy Safety



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U.S. PIRG Education Fund

November 2015

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# Executive Summary

For 30 years, U.S. PIRG Education Fund has conducted an annual survey of toy safety, which has led to over 150 recalls and other regulatory actions over the years, and has helped educate the public and policymakers on the need for continued action to protect the health and wellbeing of children.

Among the toys surveyed this year, we found potential choking and noise hazards, one toy that exceeded federal toxic standards, and three toys that preliminary testing showed may exceed federal standards. This report not only lists the potentially dangerous toys that we found this year, but also describes why and how the toys could harm children.

The continued presence of hazards in toys highlights the need for constant vigilance on the part of government agencies and the public to ensure that children are not harmed by unsafe toys.

Standards for toy safety are enforced by the Consumer Product Safety Commission (CPSC). Safety standards include limits on toxic substances in children's products, size requirements for toys for small children, warning labels about choking hazards, measures to keep magnets and batteries inaccessible, and noise limits.

**U.S. PIRG Education Fund staff examined hundreds of toys to confirm that they are safe. We discovered that unsafe toys remain widely available.**

## The problems we found include:

- **Chromium.** Skin contact with chromium can cause severe allergic reactions including skin redness, swelling, and ulcers. Chromium compounds are also known to cause cancer. This year, preliminary testing revealed 3 toys that may contain unsafe levels of chromium: Minions pencil case, Slinky Jr., and magnetic numbers, and we call on the CPSC to do further testing on these toys.
- **Phthalates.** Exposure to phthalates at crucial stages of development may harm development of the male reproductive system, and is linked to early puberty. Lab tests confirmed that a jump rope purchased by our shoppers contained phthalates at levels greater than the legal limit.
- **Small parts** are pieces that might block a child's airway. Children, especially those under age three, can choke on small parts. Our shoppers identified several toys that contain or may break into small parts, but either do not have the correct U.S. statutory warning label, or any warning label at all. These included a fairy wand, toy car and plane, a Dory figurine, a mini vortex football, and a toy mermaid.
- **Small balls** less than 1.75 inches in diameter represent a choking hazard for

children three years and younger. We found Magic Towels packaged as a small baseball and a small football at Dollar Tree which did not have the appropriate small ball warning label. We also remain concerned about other small, rounded toys, such as toy food, that present the same choke hazard as small balls, but are not labeled as a hazard.

- **Balloons** are easily inhaled in attempts to inflate them and can become stuck in children's throats. Balloons are responsible for more choking deaths among children than any other toy or children's product. We found three balloon sets on store shelves marketed to children under eight.
- **Magnets.** When two or more powerful magnets are swallowed, they can have fatal health consequences as their attractive forces draw them together inside the body, perforating intestinal walls. We found ellipsoid magnets that are just larger than the small parts cylinder. While we believe these magnets do not technically violate any standards, we include them because their near-small parts size is a concern. We also note that following aggressive enforcement of an all-out ban by the CPSC, small powerful magnets that do fit in the choke test cylinder are nearly impossible to purchase, although we did find one foreign Internet site that still sells them.
- **Excessive Noise.** Excessive noise exposure can lead to hearing loss. This is especially problematic for young children, because hearing loss at an early age has ramifications for speech development. Our shoppers found five toys marketed to children under three years that are estimated to be either at or slightly above the decibel standards recommended for close-to-the-ear toys which included a toy animal, car, flashlight, magnetic letter set, and a remote.

- **Lead.** Even low levels of lead in blood have been shown to undermine IQ, attentiveness, and academic achievement. While our shoppers did not find any toys with high levels of lead, the CPSC has recalled toys due to lead limit violations this year.

Despite recent progress in making toys safer, the findings of our 2015 investigation, as well as recent recalls and legal actions against importers, highlight the need for continued attention to shortcomings in existing standards, and vigilance on the part of the shopping public. To keep children safe from potentially hazardous toys, there is still more to do.

**Policymakers should continue building upon recent progress in the strengthening of toy safety standards. The CPSC should:**

- Continue to vigorously enforce the Consumer Product Safety Improvement Act's mandatory standards for toys, including strict limits on lead and lead paint in any toys, jewelry, or other articles for children under 12 years;
- Vigorously enforce the Consumer Product Safety Improvement Act's permanent ban on the use of three specific phthalates in all toys and children's products;
- Upgrade the interim ban on three additional phthalates into a permanent prohibition and expand it to include additional phthalates;
- Enlarge the small parts test tube to be more protective of children under three;
- Change the small-ball rule to include small round or semi-round objects, and not just "balls" in the strictest definition, since these toys pose the same haz-

ards as small balls, especially rounded toy food, since they are “intended” to be eaten;

- Continue to enforce the use of the United States’ statutory choke hazard warning label;
- Continue to enforce CPSC rules requiring online warning labels; and
- Fully enforce sound and battery standards.

**Parents can also take steps to protect children from potential hazards. We recommend that parents:**

- Shop with U.S. PIRG Education Fund’s Toy Safety Tips, available at [toysafety-tips.org](http://toysafety-tips.org);
- Examine toys carefully for hazards before purchase – and don’t trust that they are safe just because they are on a store shelf;
- Report unsafe toys or toy-related injuries to the CPSC at [www.saferproducts.gov](http://www.saferproducts.gov).
- Subscribe to government announcements of recalled products at [www.recalls.gov](http://www.recalls.gov); and
- Remember, toys on our list are presented as examples only. Other hazards may exist.

**For toys you already own:**

- Remove small batteries if there is any question over their security or inaccessibility and keep them out of reach of children;
- Remove batteries from, or tape over, the speakers of toys you already own that are too loud; and
- Put small parts, or toys broken into small parts, out of reach. Regularly check that toys appropriate for your older children are not left within reach of children who still put things in their mouths.



# Introduction

In May 2015, a federal judge ordered Zen Magnets, a firm with a history of recalled magnetic toys, to stop the resale of small, dangerous, recalled high-powered magnets.<sup>1</sup> These products were taken off the market following numerous reports of ingestions of the small, strong magnets, which can damage internal tissue and result in acute and long-term injuries.<sup>2</sup> The owner of Zen Magnets allegedly bought 917,000 of these magnets from Star Networks and sold them after the recall.<sup>3</sup> Accidental ingestion of magnets has led to an estimated 2,900 emergency-room-treated injuries in children from 2009-2013.<sup>4</sup> Incidents like these show that consumers and policy-makers must remain vigilant to ensure unsafe products do not put children at harm.

After a series of record-breaking toy recalls in 2007, Congress passed the Consumer Product Safety Improvement Act (CPSIA), giving the Consumer Product Safety Commission (CPSC) the ability to hasten recalls, hold toy manufacturers accountable, and ban certain toxic chemicals in children's products.<sup>5</sup> This has led

to over 1,375 recalls of unsafe children's products, totaling over 230 million product units from 2004-2014.<sup>6</sup>

However, despite the CPSIA and other consumer protection laws, companies continue to produce and import toys that present potential hazards to children, putting them at risk of injury or even death. The CPSC estimates that in 2013, there were 256,700 toy-related injuries treated in U.S. hospital emergency departments and 9 toy-related deaths<sup>7</sup>, and in 2014, over 2.7 million units of children's toys were recalled.<sup>8</sup>

The 2015 Trouble in Toyland report is the 30th annual U.S. Public Interest Research Group (PIRG) survey of toy safety. This report provides safety guidelines for consumers purchasing toys for small children, key requirements toys must meet to comply with our nation's consumer protection laws, and an examination of potentially hazardous products currently available on the market. This report also recommends strong, consistent enforcement of consumer protection laws, such as the CPSIA, to continue improving toy safety.



# Hazards in Toys

**D**espite progress in recent years, some toys and children's products still have the potential to cause harm. Depending on the materials used and the quality and nature of the product itself, the risks for children posed by toys and other products range from choking on small parts to suffering from dangerous chemical reactions in the body. In extreme cases, the consequences can be fatal. This section describes the most common hazards for children, the federal standards relevant to each hazard, and toys we found that potentially violate these standards.

## Toxic Metals

Despite national laws such as the Consumer Product Safety Improvement Act of 2008 (CPSIA) and stronger enforcement by the Consumer Product Safety Commission (CPSC), toys containing metals that pose a health risk to children continue to make it onto American store shelves. Our tests this year identified toys containing high levels of chromium, and further testing is necessary to determine whether they exceed federal limits. Positively, manufacturers appear to be doing a better job at getting lead out of toys, as our testers did not find any toys with high levels of lead. However, that does not mean lead cannot be found in toys or chil-

dren's products, as the CPSC has recently recalled several lead-laden toys.

### Chromium

Chromium is a naturally occurring element found in plants, animals, and soil. Chromium(VI) is used in chrome plating, dyes and pigments, and leather tanning. Skin contact with Chromium(VI) can cause severe allergic reactions including skin redness, swelling, and ulcers. Chromium(VI) compounds are also known to cause cancer, either in the lungs after inhalation, or in the stomach after ingestion.<sup>9</sup> Dyed or pigmented toys and children's jewelry represent the most likely source of harmful chromium exposure for children. A 2012 study by The Ecology Center found chromium in over 90 percent of the 99 children's and adults' jewelry pieces purchased from mainstream retailers.<sup>10</sup>

### Federal Standards for Chromium

Chromium is subject to a limit in toy surface coatings and parts, after being dissolved in acid, of 60 ppm.<sup>11</sup> This applies regardless of the form of chromium in the product.<sup>12</sup>

### Toy Survey Findings – Chromium

This year, lab tests revealed high levels of chromium in 3 toys: Minions pencil case (660 ppm), Slinky Jr. (1400 ppm), and magnetic numbers (390 ppm). See Appendix 1 for more details.

## Lead

Elemental lead is a soft metal occurring naturally in soils and rocks. It has a variety of commercial uses including in batteries, plastics, and radiation shielding. In the past, lead was also added to gasoline and paint.<sup>13</sup> Because of lead's toxicity, in 1978 it was banned in household paint, in products marketed to children, and in dishes and cookware in the United States.<sup>14</sup> Lead is not discernible by sight or smell. Lead exposure is particularly damaging for young children because of its impact on development. Even low levels of lead in blood have been shown to undermine IQ, attentiveness, and academic achievement. The Centers for Disease Control and Prevention (CDC) makes clear that any amount of lead in a child's blood is unsafe.<sup>15</sup> Moreover, since the effects of lead exposure cannot be reversed, it is especially important to prevent lead exposure to children in the first place. Unfortunately, toys can pose a risk in part because lead is used in other countries and can be found in imported products.<sup>16</sup> Additionally, lead may be incorporated into plastic.<sup>17</sup> Lead is used to soften plastic and make it more flexible, but when the plastic is exposed to sunlight, air, or detergents, the chemical bond between the lead and plastic breaks down, forming lead dust. Children can inhale or come in contact with this dust when they put toys in or near their mouths.<sup>18</sup> Lead in toys continues to be an issue.

### Federal Standards for Lead

With a few exceptions, federal law requires that all children's products manufactured after August 2011 contain no more than 100 parts per million (ppm) of total lead content in all accessible parts.<sup>19</sup> The CPSC defines accessible parts as parts that a child could reach through "normal and reasonably foreseeable use and abuse of the product."<sup>20</sup>

- Paint or similar surface coatings on all children's products are subject to a lim-

it of 90 ppm of total lead. (Household paints are also subject to this rule.)

- Exceptions to these standards include metal components of bicycles, which cannot contain more than 300 ppm of lead. Components in electronic devices, some used children's products, inaccessible parts, and other items are exempt from the lead standard.<sup>21</sup>

Note that these limits do not meet the recommendations of the American Academy of Pediatrics (AAP), which recommends that all products intended for use by children contain no more than trace amounts of lead, defined as 40 ppm, the high end of typical lead concentrations in uncontaminated soil.<sup>22</sup>

### Toy Survey Findings – Lead

None of the toys that were tested this year contained levels of lead that were above the legal limit.

## Phthalates

Phthalates are a group of chemicals used to soften and increase the flexibility of plastics like polyvinyl chloride (PVC), which is brittle in its original formulation. The plastics industry uses large amounts of phthalates in products such as home siding, flooring, furniture, food packaging, clothing, and toys. Phthalates are also commonly used in industrial products like solvents, lubricants, glue, paint, sealants, insecticides, detergent, and ink.<sup>23</sup>

Research has documented the potential damage of exposure to phthalates at crucial stages of development, including altered development of the male reproductive system and early puberty.<sup>24</sup> At least one type of phthalate is suspected of causing cancer.<sup>25</sup> Some retailers, such as national superstore brand Target, have

taken action to eliminate PVC – and thus phthalates – from store-brand children’s products.<sup>26</sup>

### **Federal Standards for Phthalates**

- The CPSIA banned three types of phthalates (DEHP, DBP and BBP) at levels greater than 1,000 ppm in the plasticized parts of child care articles and toys.
- The law also established an interim ban on three other types of phthalates (DINP, DIDP and DnOP) at levels greater than 1,000 ppm in plasticized parts of child care articles and children’s toys that can be placed in a child’s mouth.<sup>27</sup>

The ban is in effect while the CPSC studies these phthalates.<sup>28</sup> Inaccessible parts of toys are not subject to the ban. In July 2014, a group of scientists appointed by the CPSC to a Chronic Hazard Advisory Panel on Phthalates and Phthalate Alternatives released recommendations for how the CPSC should proceed regarding phthalates covered by the interim ban, and phthalates in general. The panel recommended that the interim ban be lifted on two phthalates and that DINP be permanently banned. In addition, the panel advised the CPSC to add four other phthalates (DIBP, DPENP, DHEXP and DCHP) to its permanent ban.<sup>29</sup> On December 30, 2014, the CPSC introduced a proposed rule to permanently prohibit children’s toys and child care articles that contain over 1,000 ppm of the phthalates DINP, DIBP, DPENP, DHEXP, and DCHP.<sup>30</sup> Though unfinished, this rule represents an increasing awareness of the dangers of toxic chemicals in toys.

### **Toy Survey Findings - Phthalates**

Laboratory tests found excessive levels of phthalates in the Fun Bubbles jump rope which contained 10,000 ppm of the

banned phthalate DEHP, which is ten times the limit. The jump rope also contained 190,000 ppm of the toxic phthalate DIBP, which has not yet been banned, but is one of the phthalates in the CPSC’s proposed list of phthalates that should be permanently banned. See Appendix 1.

## **Choking Hazards**

Small parts in toys, small balls, and balloons all present potential choking hazards. Choking is the leading form of toy-related death. From 2001 to 2013, 106 children died from choking on or asphyxiation by a play item.<sup>31</sup> See Appendix 2. Small parts toys containing small parts – for example, a miniature comb for a doll’s hair, or small, interlocking construction blocks – may present a choking hazard for children, especially those under the age of three. Younger children are at a stage of childhood development in which mouthing or biting objects is common, increasing the risk that a small toy or component will get lodged in the windpipe. From 2011 to 2013, the most recent year for which data are available, small parts caused 18 deaths in children.<sup>32</sup>

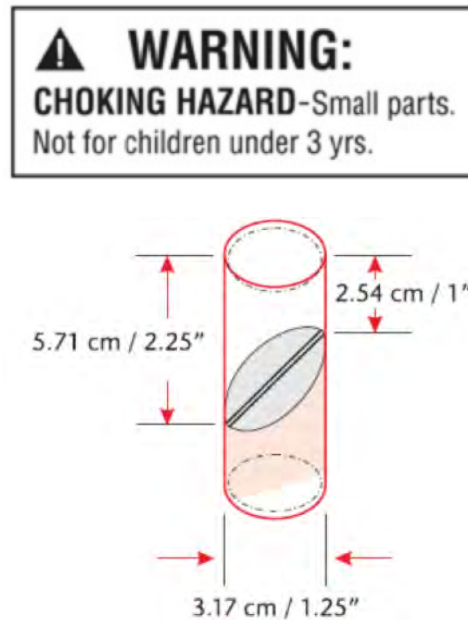
The CPSC defines a “small part” as anything that fits inside an official choke test cylinder, which has an interior diameter of 1.25 inches and a slanted bottom with a depth ranging from 1 to 2.25 inches (see Figure 1). This cylinder is the approximate size of the fully expanded throat of a child under the age of three. If a toy or part of a toy – including any part that breaks off or separates during “use and abuse” testing – fits inside the test cylinder, the product constitutes a choking hazard.<sup>33</sup>

### **Federal Standards for Small Parts:**

- Federal law bans the sale of toys containing small parts if the toy is intended for use by children under the age of three.

- Toys with small parts intended for children between the ages of three and six years old must include the following explicit choke hazard warning:<sup>34</sup>

**Figure 1. Choke Test Cylinder**



- Marbles, or toys containing marbles, as well as vending machines or toy bins selling products that may pose a choking hazard, are also required to post explicit warnings.<sup>35</sup> The CPSC uses several factors to determine whether a toy is intended for children under three years old, including the manufacturer's stated intent; age labeling on the product; the advertising and marketing of the product; and if the toy is "commonly recognized" as being intended for a child under three years.<sup>36</sup> A number of items, such as crayons, chalk, modeling clay, and finger paints are exempt from the small parts regulation because they cannot be manufactured in a way that would prevent them from breaking into small parts when subjected to "use and abuse" testing. Children's clothing and accessories such as shoe lace holders,

diaper pins, and barrettes are also exempt because they need to be small to perform their intended purpose.<sup>37</sup>

### Toy Survey Findings – Small Parts

Our shoppers identified a number of toys for children between ages three and six years that contain small parts or break into small parts, yet lack the statutory warning label required by U.S. federal law. Toys that are marketed to children between ages three and six years must contain the correct express statutory small parts warning if they contain or can break into small parts. In this year's survey, we found a fairy wand marketed to children under three years old that easily breaks into a small part and may fail more formalized CPSC use and abuse testing. The wand, which contains no age group recommendation, contains a small plastic jewel about 1 inch in diameter that easily breaks off.

Labeling violations are another hazard for toys containing small parts. These toys may be missing a warning label completely and only indicate an age range, or contain a nonspecific or foreign country warning label. The small parts labeling violations we found included a toy car and plane, vortex football, Dora mermaid, and Dory figurine. Note that some of these products have a "Warning: Small parts may be generated" label, but this is not sufficient to meet the federal standards. This label may be suitable in certain foreign countries. The express statutory choking hazard warning must accompany toys that may break into small parts if sold in the U.S. See Appendix 1 for details.

A third category of choking hazards is near-small parts, which are toys that are just barely bigger than a choke test cylinder. These toys technically meet safety standards and do not require any choke hazard warning labels.

## Small Balls

Since 1994, federal law has treated small balls in toys as a distinct choking hazard from small parts, one that is subject to more stringent standards. The law defines a ball as “any spherical, ovoid, or ellipsoidal object designed or intended to be thrown, hit, kicked, rolled, dropped, or bounced.” In addition, the term “ball” includes any multisided object formed by connecting planes into a generally spherical, ovoid, or ellipsoidal shape that is designated or intended to be used as a ball.<sup>38</sup> As with small parts, the risk is particularly great for young children inclined to put objects in or near their mouths. Between 2001 and 2013, the most recent year for which data are available, small balls and marbles were responsible for 37 choking fatalities in children reported to the CPSC.<sup>39</sup> U.S. PIRG Education Fund believes that small balls are not the only round toys that are a choke hazard. We recommend that all round, ball-shaped toys pass not just the small parts test but the small ball test, too. Any small, rounded toy, such as items found in toy food sets, can choke a child.

### Federal Standards for Small Balls

- Balls with a diameter of less than 1.75 inches (as opposed to small parts which must fit into a cylinder 1.25 inches across) are banned for children younger than three years of age.<sup>40</sup> Toys that are spherical or have spherical parts, but are not intended for use as a ball, do not have to meet this standard.
- Any small ball intended for children over the age of three must include the following warning:<sup>41</sup>



#### **WARNING:**

CHOKING HAZARD--This toy is a small ball.  
Not for children under 3 yrs.

- A toy or game containing a small ball and intended for children between ages three and eight must include this warning:<sup>42</sup>



#### **WARNING:**

CHOKING HAZARD--Toy contains a small ball.  
Not for children under 3 yrs.

### Toy Survey Findings: Small Balls

This year, our shoppers yet again found two examples of small balls that were not properly labeled, which we also found last year. We found what initially appeared to be a miniature baseball, but is actually a washrag tightly compressed and shrink-wrapped into a baseball shape that expands when soaked in water. Labeled a “Home Run! Baseball Magic Towel,” it is a ball with play appeal to a young child. It is marked for “ages 3+” and has a diameter less than 1.75 inches. Thus, it should have a warning that it is not suitable for children under 3 years and that it is a choke hazard. Another washrag in this series wrapped as a football similarly lacks a label. Because the packaging lacks a choke hazard label and is labeled “ages 3+,” the product fails to provide parents with the appropriate guidance. See Appendix 1 for details.

## Balloons

Balloons pose the most serious choking hazard to children in the United States. They are responsible for more childhood deaths by suffocation than any other product. Children can suffocate on balloons by accidentally inhaling while attempting to inflate them, by inhaling uninflated balloons while sucking or chewing on them, or by inhaling pieces of broken balloons.<sup>43</sup> Between 2001 and 2013, the most recent year for which data are available, approximately 38 percent of all toy-related choking fatalities reported to the CPSC involved balloons.<sup>44</sup>

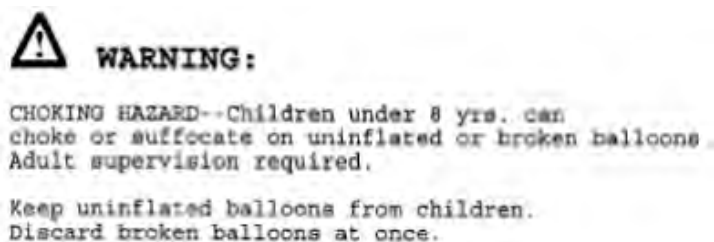


Because balloons are intended for older children, and because of the risks inherent in inflating them, balloons present a serious choking hazard for children significantly older than the typical at-risk population for small parts and balls.

### Federal Standards for Balloons

Balloon packages must display an explicit choke hazard warning. Due to the risk balloons pose even to older children, the warning must explain that the hazard applies to children younger than eight.<sup>45</sup>

The required label is:



### Toy Survey Findings: Balloons

All the balloon packages we inspected in stores included the required warning label, complete with language warning that children under eight can choke on balloons and balloon parts. However we found three different balloon products with a second label indicating that the product is for children ages three and older with conflicting small parts and balloon warning labels. The balloon products our shoppers found that contained conflicting labels were the Balloon Animal Kit, Mega Value Pack 16 Latex Punch Balloons, and Mega Value Pack 12 Water Bomb Packs. See Appendix 1 for details.

## Magnets

Small, powerful magnets that rose to popularity in the mid-to-late 2000s have the potential to cause serious injury and even death due to complications arising from ingestion. These “rare-earth” magnets are much more powerful than refrigerator magnets. Such magnets are used in various types of toys including construction sets, puzzles, toy jewelry, action figures, board games, and train sets. They are also common in novelty items containing hundreds of small magnetic pieces and previously marketed at adults as sculpture kits, desk toys, or stress relievers. “Buckyballs” – the subject of a recall ordered by the CPSC – are perhaps the most well-known example of such a product, with hundreds of small, spherical magnets, each much smaller than a marble, closer in size to a BB pellet.

Despite being marketed as a desk toy for adults, incidents reported to the CPSC made clear that children were nonetheless suffering serious injury after swallowing these magnets, highlighting the risk posed by adult novelty items even with appropriate warning labels.<sup>46</sup> What makes these adult magnet sets so dangerous is that their numerous magnets are easy to lose track of and the products themselves are inherently appealing to children. While very young children may mistake component magnets for candy, older children and young adolescents may use pairs of magnets to imitate facial or tongue piercings, thus putting magnets in a position to be accidentally inhaled or swallowed.<sup>47</sup> Once in the digestive system, a single magnet may pass through the body without incident. If two or more magnets are swallowed, however, their attractive forces can pull them toward each other, causing obstructions or pinching, or trapping intestinal walls or other digestive tissue.<sup>48</sup> In extreme cases, the magnetic attraction can perforate intestinal walls. In 2013, a

19-month old girl died after seven small magnetic balls perforated her bowel, leading to infection.<sup>49</sup> Even non-fatal magnet-related injuries are severe. Nearly 80 percent of high-powered magnet ingestions require invasive medical intervention, either through an endoscopy, surgery, or both. In comparison, only 10 to 20 percent of other foreign body ingestions require endoscopic intervention and almost none require surgery.<sup>50</sup> Between 2009 and 2013, the CPSC estimates that high-powered magnets caused approximately 2,900 emergency room-treated injuries.<sup>51</sup> A recently published study of magnet-caused injuries at one large pediatric hospital found a significant increase in their incidence between 2002 and 2012.<sup>52</sup>

### **Federal Standards for Magnets**

- In September 2014, the CPSC adopted a new rule that powerful magnets, whether sold in sets or individually, must be too large to fit into the official small parts cylinder used by the CPSC to determine choke hazards (see “Choking Hazards” section). Magnets that fit into a choke tube and that exceed the CPSC’s magnetic flux standards are banned for sale. The ban on small, high-powered magnet sets took effect on April 1, 2015.<sup>53</sup>
- The separate ASTM F963 standard for toys bans loose magnets or magnetic components in toys for children under the age of 14. There is an exception for magnets included in certain “hobby, craft, and science kit-type items” intended for children age eight years and older, provided the products comply with special magnet hazard disclosure requirements.<sup>54</sup> The severity of injuries caused by small, high-powered magnets led to the CPSC’s ban. In 2012, the CPSC sued several manufacturers

of small, powerful magnets to stop the distribution of Buckyballs and similar products. The lawsuits argued that warning labels had been ineffective in preventing injuries to children. All but one of the manufacturers had settled with the CPSC by the summer of 2014 and agreed to recall their products.<sup>55</sup> The CPSC subsequently issued its ban on all similar products because of the risk of injury and death they present.

### **Toy Survey Findings:**

#### **Dangerous Magnets**

Similar to last year, we found ellipsoid Sizzlers magnets that nearly fit in the small parts cylinder and are therefore legal, but we categorize them as “near-small-parts.” They are sold as a novelty “finger-fidget” toy, marketed to children ages “8+.” We also bought a generic brand of the same ellipsoid magnets that have no age warning. They are smooth and shiny and striking them together causes them to vibrate and produce a singing sound, making them appealing to children. They are also powerful enough to attach through human tissue (even as thick as a hand). While we believe these magnets do not technically violate any standards, we include them because their near-small parts size is a concern, and the CPSC notes that there have been gastroenterological injuries associated with similar ellipsoid magnets.<sup>56</sup> They illustrate the need to increase the size of the choke tube, since these toys are shaped so much like a throat.

We were also able to purchase banned small magnets from at least one foreign-based website, although their marketing and availability have been sharply reduced due to the aggressive safety-based enforcement stance of the CPSC.



## Excessive Noise

Excessive noise can be harmful; damaging the inner ear and causing hearing loss. Sounds can cause harm by being too loud even for a short period of time, or by being loud over an extended timeframe. Hearing loss from excessive noise exposure is common in the U.S., even for the young. Sixteen percent of teens aged 12 to 19 years have some self-reported hearing loss for which loud noise could be responsible.<sup>57</sup> A 1998 study of children in a wider age range found approximately 15 percent of children between ages six and 17 showed signs of hearing loss.<sup>58</sup>

Excessive noise in toys is of concern because children have the most to lose from hearing loss. Loss of hearing at an early age can affect a child's ability to learn vocabulary, grammar, idiomatic expressions, and other aspects of verbal communication.<sup>59</sup> This could have consequences for their educational attainment and social and professional success later in life.

### Federal Standards for Noise Levels

Noise standards have improved in recent years. Toy manufacturers were not required to follow sound standard guidelines until 2009 when federal law gave the CPSC authority to enforce voluntary standards contained in the comprehensive ASTM F963 toy standard.<sup>60</sup>

- Hand-held, tabletop, floor, and crib toys producing continuous sound cannot do so in excess of 85 decibels when measured from approximately 20 inches.<sup>61</sup>
- Close-to-the-ear toys must adhere to a continuous sound limit of 65 decibels when measured from approximately 20 inches.
- Close-to-the-ear toys are subject to a limit of 96 decibels for bursts of noise when measured from approximately 20 inches.

- All other toys are subject to a limit of 115 decibels for bursts of noise, except toys using an explosive action or percussion cap, which are limited to 125 decibels. As with all sound standards, these are noise levels as measured at approximately 20 inches.

### Toy Survey Findings: Loud Toys

This year, our shoppers easily found five toys marketed to children under three years old that are estimated to be too loud. Our findings are based on our own testing using a handheld decibel meter. While we were unable to find a lab that would conduct a more accurate test using a more sophisticated test apparatus as described in the ASTM F963 standard, and we do not assert that the toys we found violate any rules, we do believe that our findings should serve as a precautionary warning to parents and toy-givers. Please note that these toys are only examples. Had we purchased more, we would have found more loud toys.

The loud toys we found include “Smart Animals” and “Smart Wheels” for children 1-5 years, which are above 75 decibels at a distance of 20 inches and above 85 decibels if held to the ear, along with the Spin and Learn Color Flashlight for children 12-36 months that is above 70 decibels at 20 inches and above 85 decibels when held to the ear. We also found a Magnetic Letter Set, marketed for children two years and older, that is above 65 decibels at 20 inches and above 80 decibels when held to the ear. Lastly, the Laugh & Learn Remote for children 6-36 months emits sounds above 70 decibels at 20 inches and above 80 decibels if held to the ear.

Furthermore, U.S. PIRG Education Fund believes that the current standards are too weak and should undergo further review by the CPSC. As the Sight & Hearing Association points out, the distance at which toy volumes are tested for compliance with federal standards is longer than a child's reach.<sup>62</sup> The standard either should be updated to lower volumes, or the testing procedure should be changed to better represent how close children hold toys to their ears.

# Policy Recommendations

**W**ith the release of this year's report, there is reason to be optimistic. As earlier sections in this report indicate, toy safety standards have improved in recent years and, with the passage of the Consumer Product Safety Improvement Act (CPSIA), the United States has made many formerly voluntary toy safety standards mandatory. Further, compliance with standards, particularly for lead, appears to be improving.

Nonetheless, the findings of our 2015 investigation, as well as recent recalls and legal action against toy companies, highlight the need for continued progress in policymaking and enforcement of existing standards, and vigilance on the part of the shopping public. To keep our children safe from potentially hazardous toys, there is still more to do.

## Recommendations for Policymakers

To continue building upon recent progress in the strengthening of toy safety standards, the Consumer Product Safety Commission (CPSC) should:

- Continue to vigorously enforce the CPSC's mandatory standards for toys, including strong limits on lead and lead paint in any toys, jewelry, or other ar-

ticles for children under 12 years. Lead-tainted children's products should never end up on store shelves or in the home.

- Vigorously enforce the CPSIA's existing permanent ban on the use of three specific phthalates in all toys and children's products, and continue to monitor the use of phthalates in inaccessible components of children's toys and products.
- Upgrade the interim ban on three additional phthalates into a permanent prohibition. Expand the list of permanently-banned phthalates to include the four additional ones recommended by the Chronic Hazard Advisory Panel on Phthalates and Phthalate Alternatives.
- Enlarge the small parts test tube to be more protective of children under three years.
- Extend the standard for toys with spherical ends to apply to toys intended for children under six years old instead of under four years.
- Change the small-ball rule to include small round or semi-round objects, and not just "balls" in the strictest definition.
- Enforce the use of the United States' statutory choke hazard warning label

and ensure that all manufacturers are making potential hazards clear for parents by consistently labelling their products in accordance with U.S. standards.

- Continue to enforce CPSC rules requiring online warning labels; and
- Fully enforce sound and battery standards.

## Recommendations for Parents

Though the toy industry has made progress in recent years and toys continue to become safer, parents should remain vigilant when shopping for toys and assessing toys already at home. To protect children from potential hazards, we recommend that parents:

- Shop with U.S. PIRG's Toy Safety Tips available at the U.S. PIRG Education Fund website, [toysafetytips.org](http://toysafetytips.org).
  - Examine toys carefully for potential dangers before making a purchase. The CPSC does not test all toys, and not all toys on store shelves necessarily meet CPSC standards. The toys included in this report are presented as examples only. Other hazards may exist.
  - Become familiar with the typical dimensions of an official small part or ball. Small parts less than 1.25 inches across and up to 2.25 inches long and small balls that fit in a toilet paper roll tube pose a potential choke hazard for children three years of age or younger.
- Recognize that if a toy seems too loud for you, then it is probably too loud for your child.
  - Check that batteries are inaccessible upon purchase and will remain so during use.
  - Report unsafe toys or toy-related injuries to the CPSC at [www.cpsc.gov](http://www.cpsc.gov) or [www.saferproducts.gov](http://www.saferproducts.gov), or call the CPSC at 1-800-638-2772.

For toys you already own:

- Remove small batteries, especially “dime” or “button” style batteries, if there is any question over their security or inaccessibility, and keep them out of reach of children.
- Remove batteries or put tape over the speakers of toys you already own that are too loud.
- Put small parts, or toys broken into small parts, out of reach. Regularly check that toys appropriate for older children are not left within reach of children who still put things in their mouths.
- If a product you own breaks and becomes unsafe, report the problem to [www.saferproducts.gov](http://www.saferproducts.gov).

# Methodology

In order to examine toys that are currently being sold, we purchased over 200 toys from major toy retailers, drug stores, and dollar stores. We tested these toys for choke hazards, toxic contamination, and excessive noise.

**For toys and children's products suspected of lead, chromium, cadmium, and antimony:** We screened potential toxic toys with an XRF analyzer provided by the Ecology Center in Michigan. Based on those results, we sent a number of items to STAT Analysis Corporation in Chicago for testing.<sup>63</sup> STAT Analysis tested for lead using CPSC test method CPSC-CH-E1003-09.1, for phthalates using CPSC test method CPSC-CHC1001-09.3, and for chromium using total element screening as outlined in ASTM F963 8.3.1. The high content of chromium and phthalates in the products we found doesn't necessarily mean that they violate the law, though it is a reason for concern.

**Choking hazards:** We examined toys for potential choking hazards, looking for the following problems:

1. A toy labeled for children under three containing small parts or breaking easily into small parts.
2. A toy containing small parts or small balls but intended for children under three.
3. A toy containing small parts or small balls and intended for children over three, but lacking the statutory choke hazard warning or having a choke hazard warning that is obscured or too small.
4. A toy intended for children under six years that lacks the statutory choke hazard warning and appears to fail the "use and abuse" test, breaking easily into small parts that fit in the choke tube.
5. A toy containing near-small parts, which are slightly larger than the choke test cylinder but may pose similar hazards. We used a choke test cylinder to assess toys.

We relied on labeling guidelines in ASTM F963-11 to assess compliance with labeling standards. For determining the age of children to whom a particular toy is marketed, we used the CPSC's Age Determination Guidelines regarding size, weight, theme, realism, colors, and level of skill.

**Loud Toys:** We measured the loudness of toys using a digital sound-meter, taking the readings from 20 inches away, as well as right up against the toy, to determine the range of noise exposure for a child playing with these toys. We used the Occupational Safety and Health Administration standard of 85 decibels (dB) as the lower limit for possible hearing damage.<sup>64</sup>

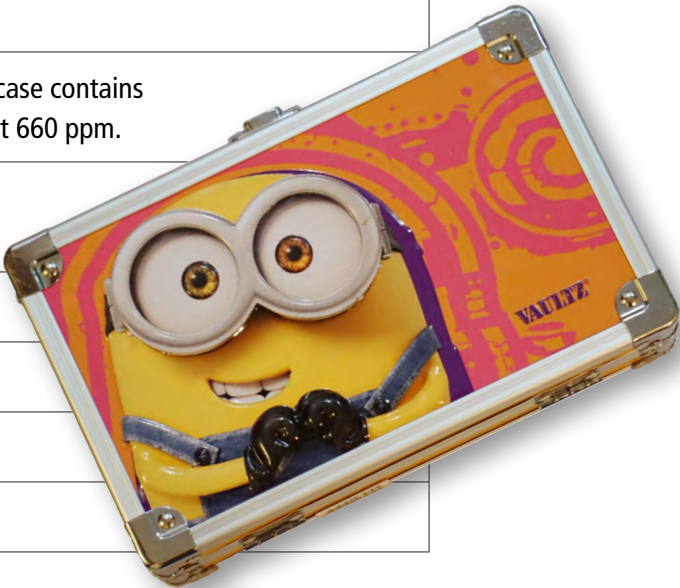
# Appendix 1.

## Potentially Hazardous Toys

### Toxic Metals: Chromium

This year, preliminary testing revealed 3 toys that may contain levels higher than 60 ppm of chromium: Minions pencil case, Slinky Jr., and magnetic numbers. The high content of chromium in the products we found doesn't necessarily mean that they violate the law. We believe it is a cause for concern, and we call on the CPSC to do further testing.

Product Name	Minions Locking Pencil Case
Label on Toy	No age range given
Type of Hazard	Chromium
Why Toy Is a Hazard	The lock on the pencil case contains chromium measuring at 660 ppm.
Manufacturer/ Distributor	Vaultz
Item # (if known)	
UPC (if known)	8-26030-03470-5
Store	Target
Price Paid	\$10.48



Product Name	Slinky, Jr.
Label on Toy	5+
Type of Hazard	Chromium
Why Toy Is a Hazard	The toy contains chromium measuring at 1,400 ppm.
Manufacturer/ Distributor	Alex Brands
Item # (if known)	DPCI-234-09-0300
UPC (if known)	0-71547-01125-5
Store	Target
Price Paid	\$1



Product Name	Magnetic Numbers
Label on Toy	4+
Type of Hazard	Chromium
Why Toy Is a Hazard	The back of the equals sign magnet contains chromium measuring at 390 ppm.
Manufacturer/ Distributor	Greenbrier International, Inc.
Item # (if known)	987583-19348-001-030115
UPC (if known)	6-39277-87583-9
Store	Dollar Tree
Price Paid	\$1





## Phthalates

Product Name	Fun Bubbles Jump Rope
Label on Toy	6+ (and also contains a 3+ choke warning label)
Type of Hazard	Phthalate
Why Toy Is a Hazard	The jump rope contains 10,000 ppm Bis(2-ethylhexyl) phthalate (DEHP), which is banned above 1,000 ppm, and 190,000 ppm of diisobutyl phthalate (DIBP), which has not yet been banned but is in the CPSC's proposed list of phthalates that should be permanently banned.
Manufacturer/ Distributor	Ja-Ru, Inc.
Item # (if known)	1561
UPC (if known)	0-75656-01561-6
Store	Dollar Tree
Price Paid	\$1





## Choking Hazards: Small Parts

- Federal law bans the sale of toys containing small parts if the toy is intended for use by children under the age of three.
- Toys with small parts intended for children between the ages of three and six years old must include the following explicit choke hazard warning (a similar warning is required for toys containing small balls or marbles):



Product Name	Fairy Wand
Label on Toy	No age range given; no choke hazard warning
Type of Hazard	Choking – breaks into a small part
Why Toy Is a Hazard	Pink plastic bead in middle easily twists off and fits in choke tube
Manufacturer/ Distributor	Greenbrier Intl, Inc.
Item # (if known)	195738-01675-008-053015
UPC (if known)	63977957283
Store	Dollar Tree
Price Paid	\$1



## Choking Hazards: Small Part Label Violations

Product Name	Disney Pixar Finding Nemo Dory Figurine
Label on Toy	3+ (insufficient warning label for a child 3-6 years)
Type of Hazard	Choking – breaks into a small part
Why Toy Is a Hazard	Dory breaks off easily and fits in choke tube
Manufacturer/ Distributor	Beverly Hills Teddy Bear Company
Item # (if known)	122014D
UPC (if known)	603154114403
Store	Five Below
Price Paid	\$2



Product Name	G2 Air Mini Football
Label on Toy	3+ (insufficient warning label for a child 3-6 years)
Type of Hazard	Choking – breaks into a small part
Why Toy Is a Hazard	Small black plastic piece at base fits in choke tube
Manufacturer/ Distributor	Hedstrom
Item # (if known)	
UPC (if known)	33149043409
Store	Five Below
Price Paid	\$1



Product Name	Disney Pixar Riplash Racers
Label on Toy	4+ "Small Parts May Be Generated" and foreign warning label (insufficient warning label for a child 3-6 years)
Type of Hazard	Choking – small part included
Why Toy Is a Hazard	White plastic piece at the bottom is intended to be removed and fits in the choke tube
Manufacturer/ Distributor	Mattel
Item # (if known)	BLV05 Asst. BLV01
UPC (if known)	746775372200
Store	Marshalls
Price Paid	\$5.99



Product Name	Disney Planes
Label on Toy	3+ "Small Parts May Be Generated" and foreign warning label (insufficient warning label for a child 3-6 years)
Type of Hazard	Choking – small part label violation
Why Toy Is a Hazard	Plastic small propeller may detach and fits in the choke tube
Manufacturer/ Distributor	Mattel
Item # (if known)	X9463 Asst. X9459
UPC (if known)	746775180393
Store	Marshalls
Price Paid	\$2.99



Product Name	Nickelodeon Mermaid Dora
Label on Toy	3+ "Small Parts May Be Generated" and foreign warning label (insufficient warning label for a child 3-6 years)
Type of Hazard	Choking – small part label violation
Why Toy Is a Hazard	Small arms may break off and fit in the choke tube
Manufacturer/ Distributor	Fisher-Price
Item # (if known)	CDR81_1100209834_DOM
UPC (if known)	887961049756
Store	Target
Price Paid	\$9.99

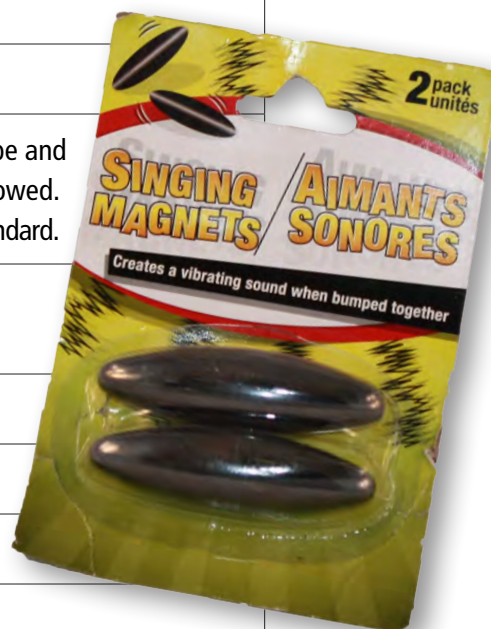


## Magnets/Near Small Parts

Product Name	Sonic Sound Sizzlers Noise Magnets
Label on Toy	8+
Type of Hazard	Magnet
Why Toy Is a Hazard	Strong magnets nearly fit in choke tube and can harm internal organs when swallowed. This toy does not violate any federal standard.
Manufacturer/ Distributor	JA-RV Inc.
Item # (if known)	165372
UPC (if known)	75656203808
Store	Family Dollar
Price Paid	\$0.75



Product Name	Singing Magnets
Label on Toy	No age range given
Type of Hazard	Magnet
Why Toy Is a Hazard	Strong magnets nearly fit in choke tube and can harm internal organs when swallowed. This toy does not violate any federal standard.
Manufacturer/ Distributor	Greenbrier Intl, Inc.
Item # (if known)	120375-01675-002-032815
UPC (if known)	63927720075
Store	Dollar Tree
Price Paid	\$1



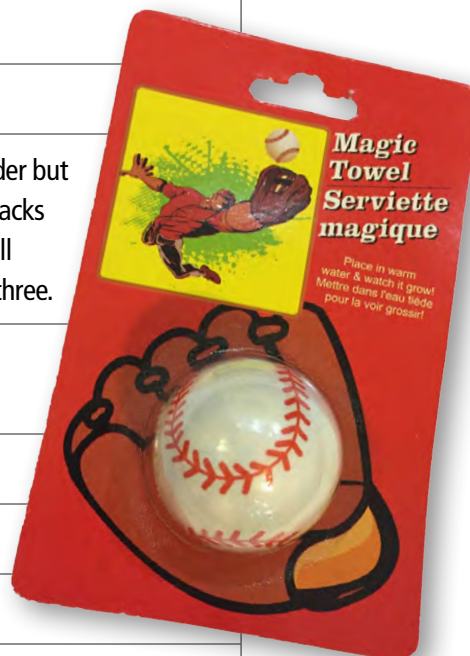


## Choking Hazards: Small Balls

Product Name	Magic Towel (football shape)
Label on Toy	3+
Type of Hazard	Choking – small ball
Why Toy Is a Hazard	The ball is larger than the choke test cylinder but smaller than the small ball tester. The toy lacks a small ball warning, required for any small ball intended for children over the age of three.
Manufacturer/ Distributor	Greenbrier International, Inc.
Item # (if known)	119208-10052-001-1204
UPC (if known)	6-39277-19208-0
Store	Dollar Tree
Price Paid	\$1



Product Name	Magic Towel (baseball shaped)
Label on Toy	3+
Type of Hazard	Choking – small ball
Why Toy Is a Hazard	The ball is larger than the choke test cylinder but smaller than the small ball tester. The toy lacks a small ball warning, required for any small ball intended for children over the age of three.
Manufacturer/ Distributor	Greenbrier International, Inc.
Item # (if known)	119208-10052-001-1204
UPC (if known)	6-39277-19208-0
Store	Dollar Tree
Price Paid	\$1



## Choking Hazard: Balloons

Product Name	Mega Value Pack 16 Latex Punch Balloons
Label on Toy	Statutory balloon warning (Children under 8 can suffocate), the statutory small parts warning (not for children under 3), and a 3+ label.
Type of Hazard	Choking – balloon
Why Toy Is a Hazard	Balloons are dangerous for children under 8, but this package is labeled for 3+.
Manufacturer/ Distributor	Amscan
Item # (if known)	392656
UPC (if known)	0-48419-93287-1
Store	Party City
Price Paid	\$5.99

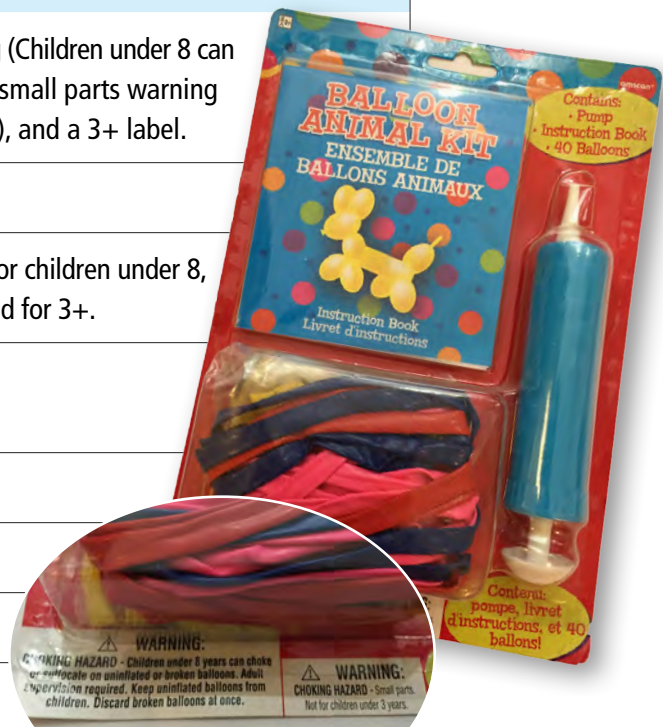




Product Name	Mega Value Pack 12 Water Bomb Packs
Label on Toy	Statutory balloon warning (Children under 8 can suffocate), the statutory small parts warning (not for children under 3), and a 3+ label.
Type of Hazard	Choking – balloon
Why Toy Is a Hazard	Balloons are dangerous for children under 8, but this package is labeled for 3+.
Manufacturer/ Distributor	Amscan
Item # (if known)	391768
UPC (if known)	0-48419-68351-3
Store	Party City
Price Paid	\$7.99



Product Name	Balloon Animal Kit
Label on Toy	Statutory balloon warning (Children under 8 can suffocate), the statutory small parts warning (not for children under 3), and a 3+ label.
Type of Hazard	Choking – balloon
Why Toy Is a Hazard	Balloons are dangerous for children under 8, but this package is labeled for 3+.
Manufacturer/ Distributor	Amscan
Item # (if known)	115918
UPC (if known)	0-48419-73408-6
Store	Party City
Price Paid	\$7.99



## Noisy Toys

These toys were tested with a handheld decibel meter, not with the exact testing apparatus of the ASTM F963 standard, but exceeded its maximum noise levels. No claim is made here that the toy violates any federal standard.

Product Name	Vtech Smart Wheels
Label on Toy	1-5 years
Type of Hazard	Loud
Why Toy Is a Hazard	Loud at ear and at distance. Measured >85db at ear, and >70db at 20 inches
Manufacturer/ Distributor	Vtech Electronics
Item # (if known)	80-119400
UPC (if known)	3417761194003
Store	Target
Price Paid	\$7.89



Product Name	Vtech Smart Animals
Label on Toy	1-5 years
Type of Hazard	Loud
Why Toy Is a Hazard	Loud at ear and at distance. Measured >85db at ear, and >70db at 20 inches
Manufacturer/ Distributor	Vtech Electronics
Item # (if known)	80-165100
UPC (if known)	3417761651001
Store	Target
Price Paid	\$7.99



Product Name	Vtech Spin and Learn Color Flashlight
Label on Toy	12-36 months
Type of Hazard	Loud
Why Toy Is a Hazard	Loud at ear and at distance. Measured >95db at ear, and >75db at 20 inches
Manufacturer/ Distributor	Vtech Electronics
Item # (if known)	80-124000
UPC (if known)	3417761240007
Store	Target
Price Paid	\$13.29



Product Name	Fisher Price Click n Learn Remote
Label on Toy	6-36 months
Type of Hazard	Loud
Why Toy Is a Hazard	Loud at ear and at distance. Measured >80db at ear, and >70db at 20 inches
Manufacturer/ Distributor	Fisher Price
Item # (if known)	W9739
UPC (if known)	746775093808
Store	Target
Price Paid	\$9.39



Product Name	Leap Frog Fridge Phonics
Label on Toy	2+
Type of Hazard	Loud
Why Toy Is a Hazard	Loud at ear and at distance. Measured >80db at ear, and >65db at 20 inches
Manufacturer/ Distributor	Leap Frog
Item # (if known)	19267, part number 540-13720-B
UPC (if known)	708431192676
Store	Target
Price Paid	\$21.19



## Appendix 2.

# Reported Toy-Related Deaths, 2001-2013

Toy-Related Deaths in Children Younger than 15, 2001-2013<sup>65</sup>

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2001-2013 total
<b>Choking/ Asphyxiation</b>														
Balloons	4	3	3	3	2	3	4	2	2	5	5	3	1	40
Marbles/ Rubber balls/other small ball	1	2	5	4	9	4	5	2	0	3	0	1	1	37
Toy or Toy Part	3	3	3	2	0	5	1	1	2	2	0	3	4	29
<b>Sub-total</b>	<b>8</b>	<b>8</b>	<b>11</b>	<b>9</b>	<b>11</b>	<b>12</b>	<b>10</b>	<b>5</b>	<b>4</b>	<b>10</b>	<b>5</b>	<b>7</b>	<b>6</b>	<b>106</b>
Riding Toys, Scooters, Tricycles	13	5	0	5	8	11	8	10	8	1	5	7	2	83
Toy Boxes	2	0	0	0	0	0	0	1	1	2	1	0	NA	7
Other	2	0	0	8	7	5	6	9	4	6	8	1	1	57
<b>Total</b>	<b>25</b>	<b>13</b>	<b>11</b>	<b>22</b>	<b>26</b>	<b>28</b>	<b>24</b>	<b>25</b>	<b>17</b>	<b>19</b>	<b>19</b>	<b>15</b>	<b>9</b>	<b>253</b>
% Choking/ Asphyxia	32%	62%	100%	41%	42%	43%	42%	20%	24%	53%	26%	47%	67%	42%



# Appendix 3.

## CPSC Characteristics of Toys for Children Under Three

The following are some general characteristics that make toys appealing to children under three.

**Size and Weight:** Small and lightweight, easy to handle.

**Theme:** Represents a common object found around the home, farm, or neighborhood.

**Degree of Realism:** Silly or cute, some realistic details.

**Colors:** Bright, contrasting colors covering large areas of the toy.

**Noisemaking:** Not loud or frightening.

**Action and Movement:** May be silly, should be easy for child to cause movement.

**Type and level of skill:** Lets child begin to learn skills or practice skills such as walking, stacking, and sorting; should be slightly beyond child's capabilities to maintain interest.

# Notes

1. Federal Judge Orders Zen Magnets to Stop Selling Dangerous Recalled Magnets <http://www.cpsc.gov/en/Newsroom/News-Releases/2015/Federal-Judge-Orders-Zen-Magnets-to-Stop-Selling-Dangerous-Recalled-Magnets/> (accessed on 20 October, 2015).

2. Star Networks USA Recalls Magnicubes Due to Ingestion Hazard; Firm Settles Administrative Lawsuit <http://www.cpsc.gov/en/Newsroom/News-Releases/2014/Star-Networks-USA-Recalls-Magnicubes/> (accessed on 20 October, 2015).

3. See note 1.

4. Consumer Product Safety Commission, Toy Injury Statistics, <http://www.cpsc.gov/en/Research--Statistics/Toys-and-Childrens-Products/Toys-/Toys/> (accessed on 25 September, 2015). Note that the Consumer Product Safety Commission continues to receive reports of fatalities and injuries after they publish their annual report for a given year.

5. Kirschman, K. B., & Smith, G. A. (2007). Resale of recalled children's products online: an examination of the world's largest yard sale. *Injury Prevention*, 13(4), 228–231, <http://doi.org/10.1136/ip.2006.013102>.

6. Durrett, Jordan. "A Decade of Data: An In-depth Look at 2014 and a Ten-Year Retrospective on Children's Product Recall" *Kids In Danger*, [http://www.kidsindanger.org/docs/research/2015\\_KID\\_Recall\\_Report.pdf](http://www.kidsindanger.org/docs/research/2015_KID_Recall_Report.pdf), (accessed on 25, September, 2015).

7. See note 4.

8. See note 6.

9. Centers for Disease Control and Prevention, Agency for Toxic Substances & Disease Registry, Toxic Substances Portal – Chromium, updated October 2012, [www.atsdr.cdc.gov](http://www.atsdr.cdc.gov) (accessed on 12 November, 2015).

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15. Centers for Disease Control and Prevention, Lead: Prevention Tips, [www.cdc.gov/nceh](http://www.cdc.gov/nceh), (accessed on 12 November, 2015).
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21. Ibid.
22. American Academy of Pediatrics, Testimony of Dana Best, MD, MPH, FAAP, on Behalf of the American Academy of Pediatrics: Energy and Commerce Subcommittee on Commerce, Trade, and Consumer Protection: Protecting Children from Lead Paint Imports, 20 September 2007.
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24. Male development: National Institutes of Health, National Library of Medicine, Tox Town, Phthalates, [toxtown.nlm.nih.gov/text\\_version/chemicals.php?id=24](http://toxtown.nlm.nih.gov/text_version/chemicals.php?id=24), (accessed on 12 November, 2015); Early puberty: I. Colon, et al., "Identification of Phthalate Esters in the Serum of Young Puerto Rican Girls with Premature Breast Development," *Environmental Health Perspectives* 108: 895-900, 2000.
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26. Safer Chemicals, Healthy Families, Target, [www.saferchemicals.org/retailers/target](http://www.saferchemicals.org/retailers/target), (accessed on 12 November, 2015).
27. Consumer Product Safety Commissions, Phthalates, <http://www.cpsc.gov/en/Business--Manufacturing/Business-Education/Business-Guidance/Phthalates-Information/#p-5>, (accessed on 12 November, 2015); Note: for the purposes of these phthalate regulations, a "children's toy" is defined as a "consumer product designed or intended by the manufacturer for a child who is 12 years old or younger." "Child care articles" are defined as "consumer products that are designed or intended by the manufacturer for a child who is three years old or younger, to facilitate sleeping or feeding, or to help a child who is sucking or teething."
28. Consumer Product Safety Commission, FAQs: Bans on Phthalates in Children's Toys, <http://www.cpsc.gov/en/Business--Manufacturing/Business-Education/Business-Guidance/Phthalates-Information/#p-5>, (accessed on 12 November, 2015).
29. Chris Gennings, et al., Report to the U.S. Consumer Product Safety Commission by the Chronic Hazard Advisory Panel on Phthalates and Phthalate Alternatives, July 2014
30. "Prohibition of Children's Toys and Child Care Articles Containing Specified Phthalates." *U.S. Consumer Product Safety Commission*. <http://www.cpsc.gov/en/Regulations-Laws--Standards/Rulemaking/Final-and-Proposed-Rules/Prohibition-of-Childrens-Toys-and-Child-Care-Articles-Containing-Specified-Phthalates/>, (accessed on 12 November, 2015).
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36. 16 CFR 1501.2(b).
37. 16 CFR 1501.3.
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