

**Comments of Consumers Union to the U.S. Consumer Product Safety Commission on
“Safety Standard for Magnet Sets, Notice of Proposed Rulemaking,”
Docket No. CPSC–2012-0050
October 22, 2013**

Consumers Union¹ (CU), the advocacy and public policy arm of *Consumer Reports*[®], appreciates the opportunity to provide comments to the CPSC regarding high-powered magnets that are part of magnet sets.²

In 2009, the U.S. Consumer Product Safety Commission (CPSC) successfully addressed the hazards posed by children’s toys that included super-strong magnets. The agency had received many reports of kids swallowing them, resulting in serious injuries and in one case death.

But the problem didn’t go away. High-powered magnets were being sold as adult toys, sold in packages of hundreds of BB-sized balls that could be formed into countless shapes, such as a striped tie featured on the cover of a Brookstone catalog.

Kids continued to ingest the magnets. A group of 17 pediatric gastroenterologists met with the CPSC last year about the number of serious stomach and intestinal injuries they continued to see when kids swallowed the magnets. Some doctors recommended banning their sale altogether.

CPSC has determined that there may be an unreasonable risk of injury associated with children ingesting high-powered magnets that are part of magnet sets. CU strongly supports the proposed rule, which would effectively ban very small, highly powerful, rare-earth magnets. This proposal will help to reduce significantly the horrible incidents of internal injury and life-altering medical consequences due to ingestion of these magnets by children and teenagers. To further address this unreasonable risk, CPSC is proposing that if a magnet set contains a magnet that fits within CPSC's small parts cylinder, magnets from that set would be required to have a flux index of 50 or less, or such a magnet set would be prohibited.

History of Rare-Earth Magnet Sets

As CPSC notes in its Notice of Proposed Rulemaking (NPR), in 2008, high-powered, rare-earth magnet sets became available to U.S. consumers. These magnet sets, which often consist of tens or hundreds of tiny, colorful, powerful magnets, are very attractive to children (including infants) and teenagers and stick together with such force that if they are ingested, they can bore holes in

¹ Consumers Union is the public policy and advocacy division of Consumer Reports. Consumers Union works for telecommunications reform, health reform, food and product safety, financial reform, and other consumer issues. Consumer Reports is the world’s largest independent product-testing organization. Using its more than 50 labs, auto test center, and survey research center, the nonprofit rates thousands of products and services annually. Founded in 1936, Consumer Reports has over 8 million subscribers to its magazine, website, and other publications.

² Safety Standard for Magnet Sets, Notice of Proposed Rulemaking. Federal Register, Vol. 77, No.171, (September 4, 2012).

the stomach or intestines, sometimes causing blood poisoning, tissue death, perforations, and other injuries that require emergency surgery. The unique and potent hazard posed by these products is especially insidious because after ingestion, children often present with symptoms (like vomiting) that resemble common illnesses such as the flu, delaying medical attention.

According to CPSC, an estimated 1,700 ingestions of magnets from magnet sets were treated in emergency departments between January 1, 2009 and December 31, 2011. The largest portion (1,200, or 70 percent) of these involved children 4 through 12 years of age. However, teenagers are at risk as well, as there have been reports of adolescents using these powerful magnets to mimic lip, tongue, and other facial piercings or accidentally swallowing them in other ways while playing with the products.

Magnet-related injuries can be serious and long term. For example, after swallowing eight magnets in April, 22-month-old Braylon Jordan of Kiln, Miss., needed to have almost all of his small intestine removed, leaving him dependent on intravenous nutrition.³

In a March issue of the Canadian Medical Association Journal, doctors described their treatment of a three-year-old boy with laparoscopic surgery after he ingested several small, spherical magnets that came together and tore a hole in his small intestine.⁴

A study published this August in the *Annals of Emergency Medicine* concluded that “[m]agnet-related injuries are an increasing public health problem for young children, as well for older children who may use magnets for play or to imitate piercings. Education and improved magnet safety standards may decrease the risk small magnets pose to children.”⁵

After reports of injuries to children due to ingestion of these magnets, in 2010 CPSC issued corrective action plans to several firms require that the products be marked as intended only for consumers 14 years of age or older. In 2011, CPSC published a public service announcement to educate consumers about the ingestion hazards associated with these magnets. However, reports of injuries continued to increase and were even more numerous in the eight months after the PSA aired as compared to before it was published. CPSC also pursued corrective action plans with 11 of 13 magnet set importers that voluntarily agreed to cease the distribution, importation, and sale of their products. CPSC is currently pursuing administrative actions against the two companies that did not agree to this stop sale.

While we commend CPSC for the measures it has already taken, we believe that the next appropriate step to address this hazard is a prohibition on products in their current form and a safety standard for magnet sets. Such a standard will adequately protect against the severe injuries seen when children and teenagers ingest these magnets, and will help to prevent future injuries or even deaths.

³ *Consumer Reports*® interviewed Braylon and his family earlier this year. See video of interview at: <http://www.consumerreports.org/cro/magazine/2012/09/magnetic-toys-still-attract-safety-concerns-for-kids/index.htm>.

⁴ <http://www.cbc.ca/news/health/powerful-magnet-injuries-sending-more-children-to-er-1.1327040>

⁵ <http://www.annemergmed.com/webfiles/images/journals/ymem/FA-5572.pdf>

It is clear that CPSC's action is necessary, as the potential uses of these rare earth magnets continue to grow, posing new potential hazards. Recently, we heard about a crowd-funding appeal for a pen and stylus product that is composed of small, cylindrical neodymium magnets.⁶ What happens if the small cylindrical pieces are swallowed by a child – is the same devastating injury possible as with the magnet sets? The agency's action on magnet sets is necessary to stay abreast of potential hazards with rare-earth magnets.

CPSC's Proposed Rule

CPSC's proposed rule would define magnet sets as "any aggregation of separable, permanent magnetic objects that is a consumer product intended or marketed by the manufacturer primarily as a manipulative or construction desk toy for general entertainment, such as puzzle working, sculpture, mental stimulation, or stress relief." CU agrees this is an appropriate definition of the scope of the rulemaking.

In addition, we believe that the risks presented by rare-earth magnets in science kits or craft and hobby kits, no matter how they are age graded and labeled, are of concern as well, since such kits may help to pique children's and adolescents' interest in and fascination with magnets, leading them to play with magnet sets in a manner that poses a risk of ingestion.

However, we urge CPSC to include in the definition of "magnet set" single, i.e. individual, magnets in order to ensure that the regulation prohibits the sale of high-powered individual magnets for use as aggregated manipulative or construction desk toys. Such individual magnets could easily be sold together by a retailer in, e.g., a large bin. Consumers could therefore easily purchase multiple such individual magnets and then use them in a group, posing the same hazards from ingestion of magnets sold as a set. Further, the ingestion risk posed by very small magnets sold individually is the same as those sold in a set, so the small parts test should also apply to magnet sets that contain a single magnet, as well as magnet sets that contain multiple magnets.

Magnet Flux Strength

When examining magnet flux strength, and the possibility of developing tests to measure it, CPSC should ensure that such a standard adequately identifies and eliminates hazardous magnets, including whether magnets of a flux density of less than 50 could also potentially cause harm. While the flux density of 50 put forth in this proposed standard was based upon the ASTM toy standard and an analyses of magnetic toys on the market, we believe CPSC should also study other products containing magnets, including refrigerator magnets, push pins, and jewelry, to evaluate if and whether a flux density of 50 is the appropriate level.

We further urge CPSC to study whether magnets with a flux density of 50, when aggregated, continue to have a flux density of 50 or whether the aggregation of these magnets increases the flux density and could pose more serious harm. This evaluation is particularly critical as the magnets described in this NPR are sold in sets.

⁶ <http://www.kickstarter.com/projects/1171695627/polar-pen-both-tool-and-toy-pen-stylus-made-from-m>

Why the CPSC's Proposal is the Best Course of Action

In the NPR, CPSC lays out a number of alternative regulatory approaches to the hazards posed by these magnet sets. CU does not believe any of these alternatives are preferable to the proposed rule. Each alternative is addressed in turn.

Alternative performance requirements for these magnet sets are not adequate because the proposed rule contains tests that are already known and established. Both the small parts test (i.e., the proposed prohibition on parts smaller than CPSC's small parts cylinder) and ASTM F963-11 (which is a mandatory standard pursuant to passage of the Consumer Product Safety Improvement Act of 2008) are known to manufacturers and testing laboratories alike, which should aid in compliance by companies. In addition, a less stringent standard for either of these elements would create unnecessary risk of injury to children.

As for safer packaging, while it could conceivably inform a consumer if a magnet is missing from a set, does not address the hazards posed by a single magnet, nor does it necessarily prevent the ingestion injury – it may simply alert a parent or caregiver after the magnet(s) has already been swallowed, thus obviating the benefit of the rule. In addition, such alternative packaging puts the onus on the consumer to check for missing magnets instead of designing the hazard (i.e., the high strength of the magnets) out of the product.

We agree with CPSC that child-resistant packaging would not deter teenagers from accessing the magnets, and it would only be effective if an adult re-assembled the child-resistant packaging after each use, which seems unlikely. Putative deterrents such as bittering agents coating the magnets would not be appropriate either, as such a coating may not actually matter to a young child/infant that is tempted to mouth many different objects.

While we encourage CPSC to continue educating parents and caregivers about the dangers of ingesting these high-powered magnets, we do not believe that restrictions on the sale of magnet sets are realistic. We share CPSC staff's doubts about the ability of such restrictions – if they were even feasible – to overcome the attractiveness of the magnets to children and teenagers. Similar to the serious limitations of warning labels, restrictions on sale are an insufficient substitute for actually designing the hazard out of a product.

Warnings Are Not Enough

A warning label on these magnet sets is also not an adequate alternative to the proposed rule. As CPSC notes in the NPR, these products already include warnings to keep the product away from children, that serious injury or death may occur, and that the products are only intended for those 14 and older. However, despite the existence of these warnings as of 2010, the reports of injuries from ingestion of these products continued. Patients include even older children. Mariah Montoya, 12, was treated in January 2012 at Children's Hospital Colorado hospital when she accidentally swallowed three rare-earth magnets after some friends dared her to try a fake tongue piercing.

CU believes that the best solution to such a hazard is not to require warning labels, but to design out the hazard by applying a safety standard such as that proposed in the NPR. A warning cannot sufficiently apprise caregivers of the serious medical consequences associated with ingestion of these magnets. In addition, parents and caregivers may not appreciate the unique harm caused by the high strength of these magnets, as opposed to the hazards posed by ingestion of other small parts. Nor may consumers – especially young children who access the product, whether from parents or older siblings – be able to appreciate the message communicated in the warning label.

Conclusion

CU strongly supports adoption of CPSC’s proposed rule to address the serious and unreasonable risks posed by high-powered magnet sets. CPSC’s previous actions – including improving warnings, publishing public service announcements, and recalling of existing products – were necessary and appropriate, but it is clear that additional steps are needed to protect public safety. Alternative proposals will not adequately address the medical consequences of ingestion of these products – which some have likened to “gun-shot” like injuries – to children and teenagers. CPSC’s proposed mandatory safety standard for these magnet sets will help to reduce incidences of injury to some of the most vulnerable consumers.