

## **EXPLANATORY STATEMENT**

### **Consumer Protection Notice No. 5 of 2010**

Issued by the Authority of the Minister for Competition Policy and Consumer Affairs

Trade Practices Act 1974

Consumer Product Safety Standard – Toys containing magnets

Subsection 65E(1) of the Trade Practices Act 1974 (the Act) provides that the Minister may, by notice in writing, declare that, in respect of goods of a kind specified in the notice, a particular standard, or a particular part of a standard, prepared or approved by Standards Australia, with additions or variations specified in the notice, is a consumer product safety standard for the purposes of section 65C.

Paragraph 65C(1)(a) of the Act provides that a corporation shall not, in trade or commerce, supply goods that are intended to be used, or are of a kind likely to be used, by a consumer, if the goods are of a kind in respect of which there is a consumer product safety standard and they do not comply with that standard.

This instrument declares certain parts of the Australian/New Zealand Standard for the Safety of toys Part 1, AS/NZS ISO 8124.1:2000 as amended by Amendment 2 to that Standard to be a Consumer Product Safety Standard for the purposes of section 65C. The purpose of the safety standard is to require that new children's toys containing hazardous magnets shall carry a warning label.

The safety standard addresses the hazard to children of ingesting small strong magnets that may be contained in children's toys. Serious injuries and at least one death have occurred when children have ingested a number of hazardous magnets which became locked together through the walls of the intestines.

The Consumer Product Safety Standard adopts only those parts of the Australian/New Zealand Standard for the Safety of toys considered necessary to address the critical safety hazards of these products, and comprises requirements for determining whether toys contain hazardous magnets and if so the toys are required to carry a suitable warning label.

The requirements adopted from the Australian/New Zealand Standard are considered to be compatible with the corresponding requirements of the European and US ASTM standards for children's toys. The NSW Fair Trading Amendment (Magnetic Toys) Regulation 2009 which comes into effect from 1 March 2010 also adopts these requirements.

A Regulation Impact Statement (RIS) for this Consumer Product Safety Standard is at [Attachment 1](#). The RIS identifies the product safety issues and considers the options for addressing the issues. The case is presented for introducing a mandatory safety

standard for toys containing magnets and the rationale for the content of the new standard is explained.

A draft of the RIS was circulated for consideration by interested parties including manufacturers and suppliers of children's toys, State and Territory Fair Trading/Consumer Affairs agencies, consumer groups and child safety specialists. Comment received supported the regulation of toys containing hazardous magnets. Consultation proceedings are reported in the RIS.

The Consumer Product Safety Standard is a legislative instrument for the purposes of the Legislative Instruments Act 2003.

The Consumer Protection Notice becomes law on the day after it is registered on the Federal Register of Legislative Instruments, but in order to allow a reasonable period of time for suppliers to ensure that all stock complies with the new safety standard, the date of effect of the Consumer Product Safety Standard is 1 July 2010.

**Regulation Impact Statement  
Toys Containing Magnets**

**Product Safety Hazard Response Branch  
Australian Competition and Consumer  
Commission**

**2009**

**Office of Best Practice Regulation  
Reference No. 10493**

## **INTRODUCTION**

This Regulation Impact Statement has been prepared by the Australian Competition and Consumer Commission to examine the safety of children's toys containing strong magnets and to consider the need to regulate these toys under the product safety provisions of the Trade Practices Act.

## **PROBLEM**

### **What is the problem being addressed**

Over recent years there has been a development in the technology of magnets (particularly rare earth magnets) providing very strong magnetic attraction in a magnet of small physical size. These strong magnets have been adapted for use as a temporary attachment or latching mechanism in a range of consumer goods. The magnets are used in a variety of children's toys to perform functions such as linking the components of construction sets, linking the carriages of toy train sets and attaching various accessories to toys.

The small size of these magnets has led to instances where magnets incorporated in small toy components or magnets released from defective toy components have been ingested by children, resulting in serious injuries. Injuries occur when multiple strong magnets or a magnet and item of magnetic material have been ingested and subsequently firmly adhere to each other through the walls of the intestine, causing perforations, infection and blockages. To avoid serious illness or death it is vital that this situation is identified promptly and the ingested magnets removed. It is usually necessary to remove the magnets surgically.

Injuries resulting from the ingestion of magnets in toys are a world-wide problem that was first identified in the US. The US market for toys is similar to the Australian market in the models and types of toys being supplied. Being a large market and a leader in the adoption of many new types of toys, the US is often a good indicator of potential product safety issues that may arise in the Australian market.

The strength of a magnet is measured by its magnetic flux index. The Australian Standard AS/NZS ISO 8124.1:2000 MOD, *Safety of toys Part 1: Safety aspects related to mechanical and physical properties*, as amended by Amendment 2, defines a magnet that has a magnetic flux index greater than 50 kG<sup>2</sup>mm<sup>2</sup> and is less than certain dimensions to be hazardous. Such magnets are small enough to be readily ingested and have the strength to firmly lock together or lock to other magnetic material. The problem being addressed only relates to magnets rated as hazardous according to these criteria.

### **Deaths**

A 20 month old child died in the US as a result of ingesting a number of strong magnets which caused intestinal injuries.

## **Injury data**

In 2006 a 9 year old NSW boy required surgery for intestine perforations and bowel obstruction after he ingested several strong magnets from toys.

A US CPSC safety alert issued in April 2007 titled *Ingested Magnets Can Cause Serious Intestinal Injuries* reports “Small magnets, like those found in magnetic building sets and other toys, can kill children if two or more are swallowed. The US Consumer Product Safety Commission (CPSC) is aware of at least 33 cases of children being injured from ingesting magnets. A 20 month-old died, and at least 19 other children from 10 months to 11 years old required surgery to remove ingested magnets. In many cases, magnets had fallen out of larger components of toys. Some children swallowed intact toy components containing magnets.” The US Dept of Health and Human Services Morbidity and Mortality Weekly Report of 8 December 2006 summarises the 19 reported US cases where children required surgery to remove ingested magnets.

In January 2009, Mater Hospital in Queensland reported they had treated 3 cases where children aged 4-11 years had ingested strong magnets that caused multiple intestine/bowel perforations requiring surgery. The treating paediatric surgeon recommended regulation of the use of magnets in toys and increased public awareness of the associated product safety issue.

The ACCC obtained a report on injuries to children in Victoria associated with the ingestion of magnets from Monash University Accident Research Centre in November 2008. Data collected from Victorian hospital emergency departments over the period 2004 to 2008 shows that there are 39 cases where children ingested magnets. The reported incidents did not appear to involve the ingestion of multiple strong magnets or result in serious injuries, but the data shows that children are likely to ingest hazardous objects such as small strong magnets if they are accessible.

## **Recalls due to Magnets in Toys**

There have been seven recalls of children’s toys in Australia from 2006 to March 2009 due to problems of magnets separating from toys, creating a possible ingestion hazard.

The recalls listed on the Product Recalls Australia website are as follows:

PRA 2006/8469 – Magnetix construction set (700,000 toys)

PRA 2006/8890 – Polly Pocket playset (100,068 toys)

PRA 2007/9456 – Various Mattel magnetic toys (1,046,600 toys)

PRA 2008/9889 – Magtastik, Magna Man (15,576 toys)

PRA 2008/10280 – World 4 Kids magnetic letters (9,300 toys)

PRA 2008/10467 – National Variety magnetic letters/number set (unknown number)

PRA 2008/10514 – McPhersons magnetic letters/numbers (10,560 toys).

It is estimated that about 1.8 million of these recalled toys incorporated small strong magnets, and indicates the potential for widespread risk to children if magnetic toys are badly designed or made.

The US CPSC reported that five product recalls were undertaken in the US in 2006-2007 concerning magnets in eight million toys.

## **OBJECTIVES**

### **What are the objectives of proposed government action?**

Government action is considered necessary to help reduce the incidence of and potential for injuries to children resulting from the ingestion of strong magnets.

### **Is there a regulation currently in place?**

The NSW Government has established a mandatory safety standard for children's toys containing hazardous magnets based on the requirements of the Australian Standard for children's toys, AS/NZS ISO 8124.1. The NSW safety standard will take effect in March 2010 and will require the provision of a label warning of the potential ingestion hazard.

In April 2008 the European Union instituted an interim regulation for toys with magnets pending the development of a safety standard by CEN, the European standards organisation. Toys with loose small magnets or magnetic components were required to carry an ingestion hazard warning. Australian Standard AS/NZS ISO 8124.1 incorporates those safety requirements. The EU has subsequently (June 2009) introduced a new requirement for magnetic toys whereby toys in general are not permitted to contain small, readily ingestible components which contain strong magnets. The US has adopted similar requirements to the EU (in July 2009) and the International Standards Organisation (ISO) has initiated a project to develop similar requirements for the ISO safety standard for toys.

## **OPTIONS**

The ingestion hazard associated with strong magnets in toys might be addressed by two principal mechanisms:

- Consumer education to raise awareness of the magnet hazard so that adults may supervise the safe use of the toys; or
- Controls of the supply of toys containing hazardous magnets so as to reduce the risk to children.

Consumer education through the publication of safe use product information such as information leaflets for distribution via child safety networks or toy retail outlets can have a positive effect on consumer product safety, but the experience of agencies monitoring product safety is that this mechanism alone will not ensure that products supplied comply with desired safety standards or that all consumers are made aware of the safety hazard.

It is considered that effective consumer education in the case of toys containing small magnets needs to include warnings provided with the products to ensure that the hazard warning reaches families who purchase the toys. The current Australian Standard for the safety of children's toys incorporates a suitable warning in the following labelling requirement for toys that contain hazardous small magnets:

“WARNING! The product contains small magnet(s). Swallowed magnets can stick together across intestines causing serious infections and death. Seek immediate medical attention if magnet(s) are swallowed or inhaled.”

Product compliance with the labelling requirement might be achieved through two alternate mechanisms:

- an industry code for suppliers to voluntarily provide product warning labels; or
- a government mandated safety standard requiring the provision of product warning labels.

A further option to eliminate from the market toys containing readily ingestible strong magnets or magnetic components has been implemented in new toy standards in Europe (June 2009) and the US (July 2009). The requirements of these standards are currently being considered for incorporation into the international (ISO) standard for toys, which is expected to result in the subsequent adoption of these requirements into the Australian Standard for toys. When the Australian Standard for toys is amended to incorporate new requirements for magnets, it would be appropriate to consider the amended standard as the basis for the regulatory control of toys in Australia.

## **IMPACT ANALYSIS**

### **Impact groups**

Action to control the supply of toys containing strong magnets would impact on consumers who purchase the products, industry involved in the supply of the products and government agencies having responsibility for helping ensure the safety of consumer products and for providing health care services.

### **Option 1 – Government ban on the supply of toys containing strong magnets.**

The government might consider banning the supply of all children's toys that contain strong magnets. This would prevent any new products containing potentially hazardous magnets falling into the hands of children, and greatly reduce the potential for future injuries.

However, removing these toys from the market would have a significant economic impact on the toy industry. Toys are a major industry sector with about \$1.6b of toys sold in Australia each year, and it is estimated that currently strong magnets are an integral component of about 3-5% of toys, which probably represents about 5% of total sales dollars, or about \$80m p.a.

These toys would be eliminated from the market under such regulation, particularly toys such as magnetic construction sets where magnetic attraction is the key operational mechanism of the toys. Magnetic toys are currently a growing market

sector, so the impact of such regulation on future sales prospects would be more significant.

### **Costs and benefits to consumers**

Strong magnets are used to enhance the functionality of many popular children's toys. Depriving children of such toys through regulation would be expected to generate strong dissatisfaction among both children and their parents.

The non-availability of toys with strong magnets in the Australian market would remove the potential for future associated injuries to children. The extent of injuries is discussed in the problem section of this RIS. It is noted that under this option some consumers may bypass the effect of a ban by purchasing magnetic toys from overseas via the internet.

### **Costs and benefits to industry**

Banning the supply of toys containing strong magnets would prevent suppliers trading in a wide range of products designed for world markets, and would be a serious detriment to Australian suppliers (as estimated above, total lost sales might amount to about \$80m p.a.). Suppliers may be able to offset this loss to some extent with sales of other products.

### **Costs and benefits to government**

The removal from the market of toys containing magnets would benefit government through reduced future demand for government medical services that would otherwise be required to treat associated injuries.

The costs to government would include the cost of development of the regulation (possibly a consumer product ban, say about \$5000) and ongoing market monitoring required to ensure compliance, estimated to be about \$40,000 p.a.

The major cost to government would be adverse criticism from the public and industry that might be expected to result from banning a wide range of popular children's toys in circumstances where the potential hazard could be effectively addressed through other options.

### **Option 2 – Voluntary industry code for the provision of product warning labels**

Suppliers of children's toys might be encouraged to develop and follow a voluntary code of practice requiring that toys containing strong magnets carry labels warning of the ingestion hazard. For suppliers who are members of industry associations, a voluntary system would be expected to be very successful. It is noted that many products currently comply with relevant overseas safety standards that include a labelling requirement.

However, toys are supplied by a wide range of businesses that are not necessarily members of industry associations, and voluntary action would likely result in a large section of the market not being committed to the proposed code. It is estimated that under this option about 20% of toys containing strong or hazardous magnets may not carry warning labels.

Hazard warning labels are considered to be an effective mechanism for reducing injuries associated with magnets in toys. This view is based on the observation that serious injuries associated with magnets in toys were more widespread overseas when the toys were relatively new on the market, but the injury rate appears to have moderated following media publicity about the hazard and the introduction of warning labels by overseas suppliers.

### **Costs and benefits to consumers**

Under this option the majority of toys containing strong or hazardous magnets on the market would carry safe use warning labels, creating awareness of the ingestion hazard and so reducing the incidence of associated child injury.

However, it is expected that a substantial proportion of toys would not have warning labels, leaving many consumers unaware of the ingestion hazard.

There would be a marginal increase in the cost of toys to cover additional expense of testing and labelling, estimated to be up to 1% depending on the volume of toys supplied and possible pre-existing product compliance with relevant overseas standards.

### **Costs and benefits to industry**

Industry costs for this option include the development and promotion of an industry code, estimated to be \$10,000 p.a.

Suppliers may also incur costs for product testing and labelling in accordance with the code of practice, and it is expected these costs would be passed on to consumers in slightly increased prices. Suppliers would need to seek assurances from manufacturers or commission laboratory testing to determine whether toys contained hazardous magnets and require hazard labelling where necessary.

Magnetic toys sourced overseas that are also made for the European and US markets magnets would comply with European and/or US safety standards and these products would automatically meet the proposed Australian requirements.

Some suppliers may opt to provide hazard warning labels on their magnetic toys without undertaking testing, thereby incurring only the cost of labelling. Competition from suppliers of non-compliant products could pressure complying suppliers to absorb some of the standards compliance costs.

### **Costs and benefits to government**

A voluntary industry code of practice would benefit government through the expected reduction in demand for government medical services for treatment of product related injuries.

### **Option 3 – Government requirement for product warning labels**

Government could implement a mandatory safety standard requiring suppliers to adhere to requirements for the provision of safe use warning labels on toys that incorporate strong or potentially hazardous magnets, as specified in the Australian

Standard for toys, AS/NZS ISO 8124.1. This initiative would be expected to result in virtually all toys complying with the labelling requirement, reducing the incidence of injuries by about a further 20% compared to Option 2.

### **Costs and benefits to consumers**

Under this option all children's toys containing strong or potentially hazardous magnets would carry labels warning of the potential ingestion hazard, raising the awareness of consumers and potentially reducing the incidence of associated injuries. The proposed safety standard should not impede the availability of magnetic toys in the Australian market, thereby reducing the likelihood that consumers would bypass the effect of the standard by purchasing the products overseas via the internet (a possibility noted in Option 1).

There may be a marginal increase in the cost of these toys to cover testing and labelling where standards compliance does not already exist. As discussed in Option 2, the associated testing and labelling costs are expected to be up to 1%.

### **Costs and benefits to industry**

All industry sectors that supply toys would need to ensure that toys containing strong or potentially hazardous magnets comply with a specified safety standard, which may impose costs in sourcing suitable products.

It is likely that any additional costs for product testing and labelling would be passed on to consumers. Toys made to comply with the new European and US requirements for toys containing magnets would automatically comply with the Australian safety standard. Where toys do not already comply with relevant safety standards this may result in slightly increased retail prices to cover the costs of testing and labelling.

Where suppliers do not know whether magnets incorporated into their toys might be classified as hazardous, it would be feasible for them to avoid the need for testing the magnets by adding precautionary warning labels in accordance with the requirements of the proposed safety standard. It is not clear that this tactic would create problems in relation to levels of product safety. It may result in some products carrying the magnet hazard warning unnecessarily, but such labelling may not be popular with suppliers as it could make the toys less attractive to consumers.

Under the mandatory requirements option virtually all products in the market would comply with the safety standard and suppliers would not be subject to competition from non-complying products.

Compliance with safety standards would reduce the instances of product recalls, thereby benefiting suppliers through reduced operating expenses, product liability risk and reputation damage.

### **Costs and benefits to government**

Government would incur costs in the establishment of a mandatory safety standard (estimated \$10,000) and in the ongoing enforcement of the mandatory requirements through market monitoring (estimated \$40,000 p.a.).

The expected benefits would be a reduction in injuries associated with the product, thereby reducing demands on associated government medical services.

## CONSULTATION

This Regulation Impact Statement and proposed regulation was circulated as a draft for consideration by interested parties, being suppliers of magnetic toys, product testing agencies, child injury prevention specialists, consumer representatives and State and Territory consumer product regulators.

Development of the draft RIS was referred for consideration by the New Zealand Ministry of Consumer Affairs under Australian-New Zealand product safety cooperation initiatives and in accordance with obligations under the Trans-Tasman Mutual Recognition Arrangement.

A total of six submissions were received in the final consultation phase.

Summary of consultation comments received:

Source	Comment	ACCC Response
Health specialist	Supports government regulation.	Agreement noted.
Health specialist	Standard should require magnetic components to have a minimum size of 10 cm.	Would dramatically diverge from generally accepted small parts choking hazard definition, and not thought practical.
Health specialist	Standard should specify adhesives for magnet retention. Needs research.	Current AS does not fully address magnet retention, but future standards will.
Health specialist	Design should prevent children pulling magnets from toys.	Current AS does not fully address magnet retention, but future standards will.
Industry Association	Supports government regulation.	Agreement noted.
Industry Association	The proposed standard should match the Australian Standard in order to minimise compliance costs.	Noted.
Product test agency	Standard should reference clauses 3 and 4.1 for completeness.	Inclusion of clauses 3 and 4.1 paragraphs 1,2 agreed.
Product safety regulator	Proposed warning does not advise what to do apart from seek medical advice.	Proposed warning as formulated in AS considered sound.

Product safety regulator	Warning might particularly reference young children.	While young are vulnerable, AS broad warning addresses misuse by wide range of ages.
Product safety regulator	Clause 3.55 meaning re defined shapes considered unclear. Suggest alternate words.	Alternate words considered not necessary and could change the meaning of the standard. Not agreed.
Product safety regulator	Clause 3.56 interpretation of shapes considered unclear.	Specification is widely accepted as OK.
Product safety regulator	Clause 5.24.1 states that use and abuse tests are only applicable to toys for children up to 96 months, which limits the application re magnets.	Agreed and addressed by deleting relevant paragraph in standard. Incorporation of other clauses has been reviewed to improve focus.
Retail group	Supports government regulation.	Agreement noted.
Retail group	AS abuse tests in Clause 5.24 do not address magnet problems adequately.	Agreed, but this limitation of the current AS needs to be addressed in developing the future AS.
Retail group	Age grading of 6+ should be applied to toys with loose small magnets.	Additional labelling requirement would be unique to Aust, considered not justified.

The final recommendation of this RIS and proposed safety standard has been formulated in light of the responses received during the consultation process.

### **CONCLUSION AND RECOMMENDED OPTION (Provisional)**

Available injury data reveals only a small number of cases where serious injury has occurred as a direct result of the ingestion of multiple strong or hazardous magnets in toys. However, the data indicates that toys containing strong or potentially hazardous magnets have the potential to be a serious hazard to children. Children frequently put small objects in the mouth, and if they ingest small magnets or magnetic components from toys this can result in serious or even fatal intestinal injuries.

Option 1 to ban the supply of toys incorporating strong magnets is considered unacceptable due to the major adverse impact it would have on the market (estimated loss of product sales amounting to about \$80m p.a.). While the option would potentially be the most effective way to reduce injuries associated with the ingestion

of strong or potentially hazardous magnets, there would be widespread consumer discontent because of the removal from the market of many popular toys. The option would also prevent suppliers trading in a significant proportion of popular toys currently on the market.

Alternatively, it is considered that an effective means of addressing the risks of the ingestion of strong or potentially hazardous magnets would be to ensure that toys with strong magnets be supplied with a label warning of the hazard.

Accordingly, Option 2, a voluntary industry code of practice for the provision of warning labels on relevant toys would help to achieve this aim. As discussed above, product labelling is considered an effective mechanism for educating consumers about the magnet hazard, and would significantly reduce the incidence of associated injuries. It is assessed that this option would be a minimal cost for suppliers and consumers, but would result in the labelling of only about 80% of relevant toys.

Option 3 whereby government requires compliance with a safety standard which specifies the provision of safe use warning labels is recommended as the most cost effective option. The overall cost of this option to industry and consumers would be marginally more than for the voluntary Option 2, but would maximise compliance with the desired hazard warning requirements across the toy industry, thereby maximising the effectiveness of this product safety mechanism.

### **Proposed Form of Standard**

The Australian Standard for the safety of toys has been developed by the relevant Standards Australia technical committee to provide specifications for toys supplied in the Australian market. A subsequent amendment to the standard to include safety requirements for toys containing hazardous magnets is based on requirements for toys containing magnets in the American Standard ASTM F963-07, with some interpretation to clarify meaning in the Australian market. The Australian Standard defines hazardous magnets in terms of their strength and dimensions. Where a toy includes a hazardous magnet or magnetic component, the packaging and instructions shall include a statement similar to the following:

“WARNING! The product contains small magnet(s). Swallowed magnets can stick together across intestines causing serious infections and death. Seek immediate medical attention if magnet(s) are swallowed or inhaled.”

This form of the standard is recommended for referencing as a mandatory TPA consumer product safety standard. Attached is a draft Consumer Protection Notice declaring the proposed mandatory standard.

The introduction of the proposed mandatory safety standard would be announced through media releases that describe the new requirements and the hazard being addressed, and the ACCC would publish a suppliers guide on the standard and a product safety brochure alerting consumers to the hazard. TPA mandatory safety standards are listed on the Federal Register of Legislative Instruments website for public access.

## **IMPLEMENTATION AND REVIEW**

It is recommended that a Trade Practices Act consumer product safety standard for toys containing magnets be declared as soon as possible through a Consumer Protection Notice. The recommended standard would reference relevant clauses of the Australian/New Zealand Standard for the safety of children's toys, AS/NZS ISO 8124.1, as per the attached draft Consumer Protection Notice.

It is proposed that the new standard would take effect 6 months from the time of declaration in order that suppliers may clear non-complying stock and source new product where necessary.

The proposed TPA consumer product safety standard will be a national standard, and will replace the NSW regulation for magnetic toys that will lapse in 2011 under agreed national product safety harmonisation arrangements.

The standard will be reviewed periodically to ensure that it remains effective and relevant to the market. It will also be appropriate to review the proposed TPA consumer product standard when the referenced Australian Standard is updated.

It is noted that the current development of new requirements for magnetic toys in the International Standard for the safety of toys is expected to result in the adoption of new requirements for toys containing magnets in the Australian Standard for toys. This may prove to be a suitable future replacement for the proposed standard.