



Enforcement  
Authority

National  
Measurement  
Office

## Higher Priced Toys 2014



### Executive Summary

The restriction of the use of certain hazardous substances (RoHS2) in electrical and electronic equipment (EEE) Directive (2011/65/EU) and the Batteries and Accumulators Directive (2006/66/EC) are currently enforced by the National Measurement Office (NMO). These regulations impose particular requirements on EEE. One such category captured by RoHS2 and listed in schedule 1, Part 1, section 7 is Toys, Leisure and Sports equipment.

This project set out to explore a range of higher priced electronic toys costing £30.00 and upwards, with a view to ascertaining their levels of compliance with regards to both the RoHS and Batteries legislation. This project forms part of an overall comparison in legislation compliance levels between budget and higher priced toys. The results will be shared with the ADCO at an international level as part of a wider, co-ordinated project across the member states.

Manufacturers of electronic toys were selected by risk analysis in terms of availability on the market and the popularity of suppliers stocking them (high street retailers and online marketplaces) using search engine optimisation (SEO). A total of 15 different higher priced electronic toys were purchased, selected under five different categories: Educational, Outdoor, Musical, 0-3 Years and 3+ Years across three different price ranges: £30.00 – 44.99, £45.00 – £55.99 and £60.00 and upwards. This allowed for analysis of where the greatest risk may lie within the market.

Of the 15 products that were tested for compliance levels to RoHS2 and Batteries legislation, 40% of the products failed. In total, six failed compliance for chemical content, markings or Batteries. Four of the products were identified as non-compliant across both RoHS2 and Batteries legislation. Out of the five companies originally assessed as high risk, four had placed a non-compliant product on the market, verifying the accuracy of the risk assessment.

As the 40% failure rate indicates, the level of compliance to RoHS2 and Batteries (Placing on the Market) within the toy industry is highlighted as an area of concern, further market surveillance should be carried out in 2016/17 assessing the compliance levels of Toy products on the UK market.

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# 1. Higher Priced Toys Introduction

## 1.1 Legislation

The restriction of the use of certain hazardous substances (RoHS2) in electrical and electronic equipment (EEE) Directive (2011/65/EU) and the Batteries and Accumulators Directive (2006/66/EC) are currently enforced by the National Measurement Office (NMO).

RoHS2 restricts the use of six hazardous substances in EEE: Lead (*Pb*), Mercury (Hg), Cadmium (*Cd*), Hexavalent chromium (*Cr6*), Polybrominated biphenyls (*PBB*) and Polybrominated diphenyl ethers (*PBDE*). For each of these substances, RoHS2 sets maximum permitted concentrations for a unit of EEE.

The Battery Directive (2006/66/EC) regulates the manufacturing and disposing of batteries in the EU. The Directive limits the amount of Mercury and Cadmium in batteries and sets minimum requirements for removability of waste batteries from EEE and battery labelling.

These two matters of legislation impose particular requirements on EEE. One such category captured by RoHS2 is 'Toys, leisure and sports equipment.'

A **'toy'** is defined as '*An object for a child to play with, typically a model or miniature replica of something*'.<sup>1</sup>

## 1.2 Sales, imports and exports

Research carried out by Regioplan Policy Research in 2012, found that Toys worth €5.5 billion were imported into the EU in 2011, with the majority of these coming from the Far East, notably China. With total consumer spending totalling €16.5 billion in 2011, the EU is one of the largest toy markets in the world. Within the EU, the UK features prominently in regards to volumes of sales worth just shy of £3bn in 2011.<sup>2</sup>

## 1.3 Toy Industry

The toy industry constantly introduces new products to meet the changing desires and preferences of children and is one of the most dynamic business sectors in Europe. Because of the relatively short product life cycles of toys and competition for children's preferences with other products, innovation is an important element in the business models of toy manufacturers.<sup>2</sup> With the pressures of innovation on manufacturers, combined with recent technological advancement, the toy market has seen an increase in the production of smart, digital and electronic toys.

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Toys are increasingly manufactured to include electronic components and complex technology, thus are becoming more costly. With this in mind, the NMO has identified a need to assess the compliance levels of electronic and electrical toys within the toy industry in the UK in regards to the areas of legislation the NMO enforces.

The results will be shared with the Administrative Co-operation Working Group (ADCO) at an international level as part of a wider, co-ordinated project across the member states to assess whether Toys are an EU wide concern, and as an exchange of information between other market surveillance authorities.

## 2. Aims and Objectives

The primary aim of the project was to assess the levels of compliance of 'higher' priced toys placed on the UK market with regard to The Restriction of the use of Hazard Substances (RoHS) and the Batteries (Placing on the Market) and Accumulators regulations. This is with the objective of feeding into an overarching project, comparing compliance levels between budget and higher priced toys.

The aim of this project was also to ensure any non compliance discovered was proportionally addressed and a suitable outcome achieved, whilst forming collaborative relationships with economic operators to encourage compliance.

## 3. Methodology

### 3.1 Product Selection

In order to ascertain the level of compliance of higher priced toys in regards to RoHS and Batteries, it was decided that a total of 15 products would be identified, purchased and subjected to testing.

Search engine optimisation (SEO) research was used to identify particular suppliers and manufacturers of higher priced toys on the web. The product types to be included in this project were narrowed further by looking at products marketed at £30.00 and above, and subdividing the higher priced toy selection across the following categories and price ranges:

<u>Toy Categories</u>	<u>Price ranges</u>		
	£30.00 - 44.99	£45.00 - 59.99	£60.00+
<b>Educational Toys (x3)</b>			
<b>Sports and Outdoor Toys (x3)</b>			
<b>Musical Toys (x3)</b>			
<b>0-3 Years Toys (x3)</b>			
<b>3+ Years Toys (x3)</b>			

Fig 1. Table demonstrating how product selection was subdivided

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Products were to be identified from the five different toy categories shown in Figure 1, one product was then purchased from each of the three different price ranges.

In addition to online purchasing, at least one product from each toy category was available as an in-store purchase as well as being available online, and was purchased to compare compliance levels of those products available online and those available in store.

Following a risk assessment, 15 products were purchased over a period of seven days in Mid June 2014. The table below collates the perceived risk of non-compliance amongst the product selection identified. Potential products were assessed in terms of risk (previous history of company, product risk, subjectivity, size of company and market reach), which Figure 2 displays.

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### 3.2 Risk Assessment table for Higher Priced Toys

Company  (Name, Sole Trader/Ltd/Plc etc)	Seller / Manufacturer / Distributor  (Status)	Likelihood (chance of non compliance)			Total	Impact (of non compliance on market)			Overall Risk (/25)	Toy Category	Cost of Product  £
		History	Product Risk	Subjectivity		Size of Company	Market Reach				
B	Seller	3	4	5	12	2	2	16	Educational Toy	30.00	
F	Importer/Distributor	5	3	2	10	5	5	20	Educational Toy	44.78	
E	Seller	3	5	3	11	3	3	17	Educational Toy	99.99	
C	Importer/Distributor	5	4	3	12	5	5	22	Musical Toy	30.00	
L	Seller	3	2	1	6	5	4	15	Musical Toy	53.95	
M	Seller	3	2	1	6	3	2	11	Musical Toy	69.54	
I	Seller	3	3	2	8	4	3	15	Sports/Outdoor Toy	36.98	
A	Seller	3	5	5	13	1	1	15	Sports/Outdoor Toy	54.95	
K	Seller	3	2	2	7	2	2	11	Sports/Outdoor Toy	87.98	
N	Importer/Distributor	3	1	1	5	5	5	15	0-3 Years Toy	35.00	
G	Importer/Distributor	3	3	3	9	3	2	14	0-3 Years Toy	59.99	
H	Seller	3	2	4	9	4	3	16	0-3 Years Toy	68.82	
J	Manufacturer	5	2	1	8	5	5	18	3+ Years Toy	39.99	
O	Seller	3	1	1	5	1	2	8	3+ Years Toy	59.99	
D	Seller	3	5	4	12	4	3	19	3+ Years Toy	104.90	

Category	Value	RANGE
Highest	4	11 - 15
Medium	4	9 - 10
Lowest	7	5 - 8

Fig 2: Table demonstrating assessed risk for electronic toys

<b>Total:</b>
<b>£876.86</b>

**ASSESSED RISK CHART**

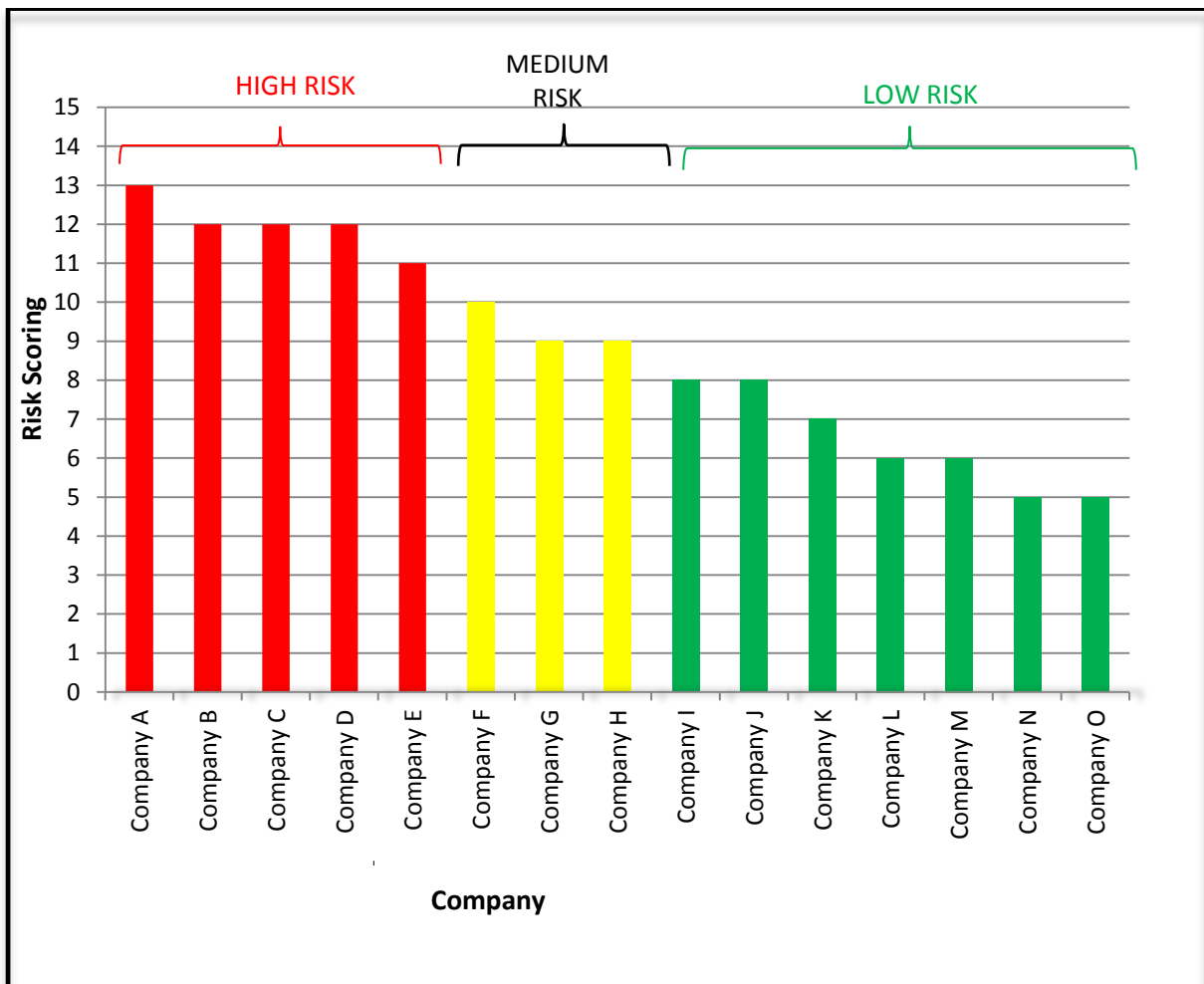


Fig 3. Chart demonstrating assessed risk of products purchased in ascending order of risk




A portion of the products chosen for this project originate from well-established retailers and manufacturers that are prominent on the high street, as they possess a large market reach and potentially present a large market impact should non-compliance be found. Some smaller manufacturers and importers have also been included; these do not possess the same degree of market reach, yet have increased risk for product non-compliance due to the perceived risk of fewer compliance procedures in place. Due to the subdivision of the products purchased, the NMO were able to purchase a wide range of toys intended for different ages and for different purposes.



## 4. Testing Results and Risk Assessment Summary

Products, once purchased, were received and booked in and subjected to in-house RoHS and Batteries testing carried out by NMO officers who conducted compliance testing in accordance with the relevant testing procedures. In the event that the product came packaged with an external power supply (EPS), the EPS was screen tested for “No Load” and Energy Efficiency as notified in the regulations of Ecodesign (EC) No.278/2009. Testing ran over a two week period. Once each appliance had been successfully evaluated, the laboratories provided the NMO with a test report for each individual appliance for further investigation.

Below are the results of the testing carried out at the National Measurement Office:

Key:			
	Pass		Failure – less severe
			Failure - severe

Toy Categories	Price Ranges		
	£30.00 - £44.99	£45.00 - £59.99	£60.00+
Educational Toys (x3)	Company F		
		Company B	
			Company E
Sports and Outdoor Toys (x3)	Company I		
		Company A	
			Company K
Musical Toys (x3)	Company C		
		Company L	
			Company M
0-3 Years Toys (x3)	Company N		
		Company G	
			Company H
3+ Years Toys (x3)	Company J		
		Company O	
			Company D

Fig.4 Demonstrating product failures and the significance of these failures by product category

## Testing Summary

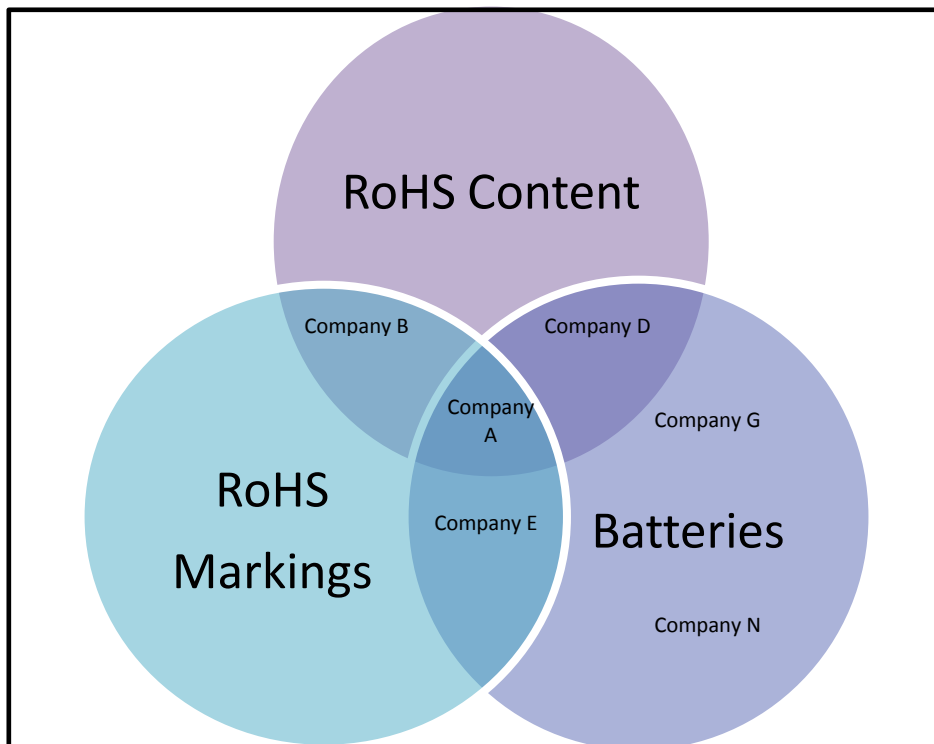


Fig 5. Showing product failures across multiple pieces of legislation

- All service level agreements (SLAs) were met and products were tested on time.
- In total, 6 products were identified as non-compliant.
- There were crossovers with products failing two or more areas.
- 1 product failed for RoHS content and RoHS markings.
- 1 product failed for RoHS content and batteries.
- 1 product failed for RoHS markings and batteries.
- 1 product failed for RoHS markings, RoHS content and batteries.
- 2 products failed solely on batteries.

<b>Total Units</b>	<b>15</b>
<b>Units Passed</b>	9
<b>Unit Failed</b>	6
<b>% Failed</b>	<b>40</b>

As per NMO procedure, investigations into non-compliant products were opened and progressed into appropriate outcomes.

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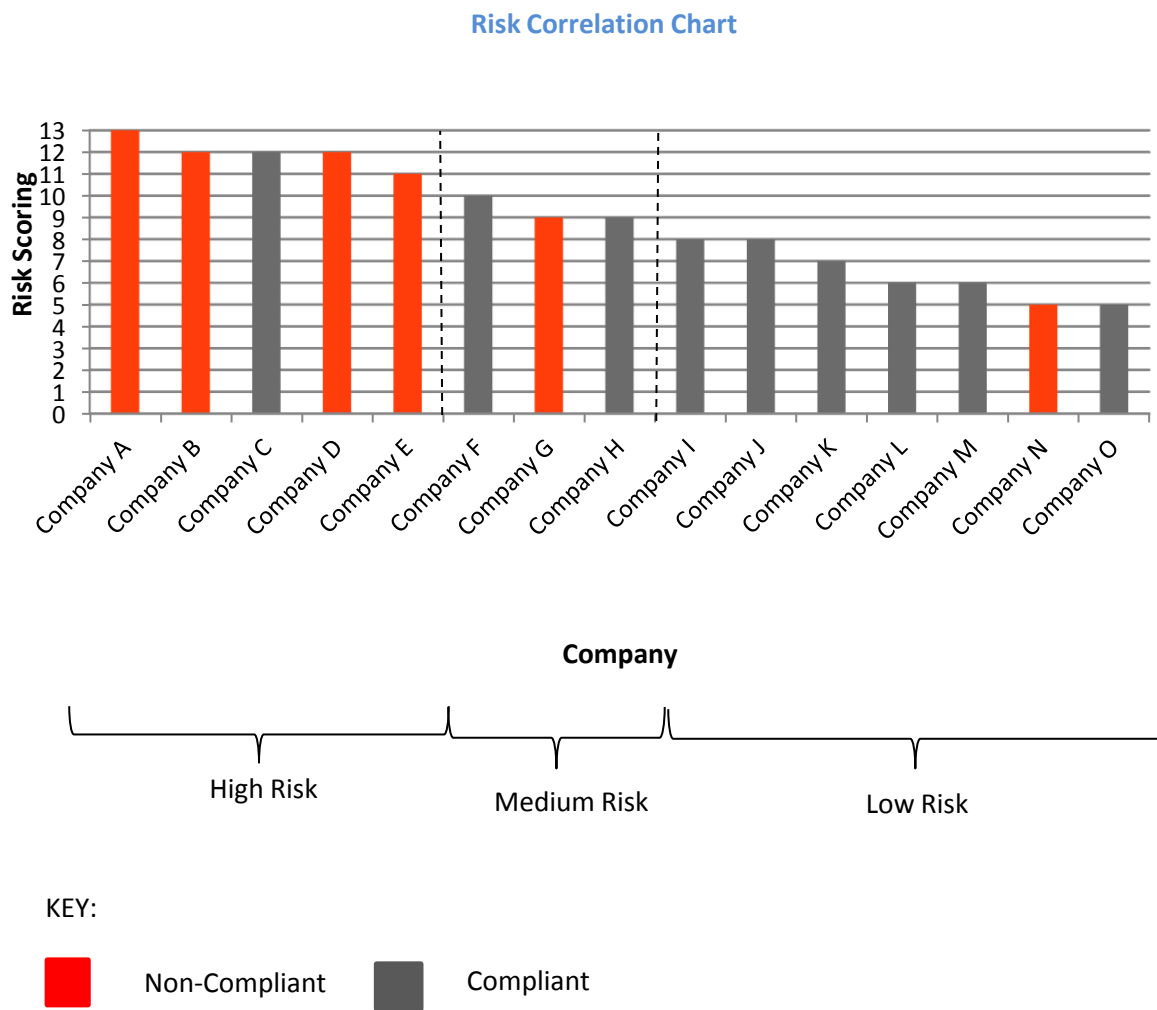


Fig.6 Chart demonstrating assessed risk of products purchased in ascending order of risk

The companies that received a risk score between 11 and 15 were considered high risk companies. Four out of the five companies perceived to be high risk had placed a non-compliant toy on the market, vindicating the risk analysis methods used. One company from both the medium and low risk of non-compliance groups had placed a non-compliant product on the market.

### 5. Conclusion and Recommendations

As the toy industry continues to be one of the most dynamic and fastest growing business sectors in the UK where new and innovative products continue to be placed on the UK market, it is important that market surveillance is continued and conducted on new toys entering the market.

Considering the popularity of particular toy categories is ever-changing and there are more new and innovative product lines entering the market, it is recommended that a market surveillance test-purchasing exercise in 2016/17 is conducted amongst Toy products on the UK market, assessing their compliance to RoHS and Batteries (Placing on the Market). More specifically, considering three of the six toys that failed were ride-on type toys, it is recommended that a future project focuses more intently on this toy type considering the indication of the higher risk of non-compliance that this toy type carries.

Most toys are sold via the traditional retail outlets. However, the main trend in retail of toys across the EU is the rise of the online retail outlet channel.<sup>3</sup> Most retail chains and manufacturers have started to invest in online retailing (e-tailing). 16.1% of toys in the UK were sold via the Internet Retailing channel in 2011. Moreover, manufacturers also sell via specialised online retailers such as Amazon. UK distributors have found that sales via Amazon and similar online retailers allow small and medium enterprises (SME) supplying toys to sell relatively large volumes quickly due to their improved exposure to consumers.<sup>4</sup>

Because of the rise in e-tailing in UK business sectors, this method of shopping is becoming a preference amongst consumers, and in that four out of the six products identified as failures within this project were supplied to the market by SMEs and small online retailers. This signalled an area of concern.

As one of the largest restrictions on the Toy Industry is the stringent environmental legislation, its introductions and its adaptation, the NMO should continue to engage with companies, especially those online sellers educating and supporting e-businesses. Where the compliance costs can sometimes be costly and can disproportionately affect smaller toy producers, there appears to be a higher risk of non-compliance amongst EEE sold by these types of sellers.

In light of the above, it is recommended that resources are invested into an initiator exercise requesting information from and assessing compliance procedures implemented by SMEs and small online e-tailers in 2015/16. This would allow the NMO to engage with retailers that tend to have less knowledge of their obligations under RoHS2 and Batteries (Placing on the Market) and would serve as a key opportunity to educate businesses on their legislative responsibilities operating on the UK market.

It is also recommended that the NMO attend the British Toy and Hobby Association (BTHA) Toy Fair in 2016. This Toy Fair is the UK's only dedicated toy, game and hobby trade show taking place

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annually at the end of January in London. The toy industry's showcase features more than 260 companies exhibiting thousands of products to visitors including retailers, buyers, media and the wider industry. By attending this event, NMO will gauge the types of toys trending and circulating the UK market place, and will therefore be able to use findings from this event to conduct effective risk analyses when undertaking a future project into the compliance of toys to RoHS2 and Batteries (Placing on the Market). Attending the BTHA Toy Fair also serves as an opportunity to increase the exposure of the NMO and where interaction between the NMO and retailers on relevant legislative matters can be encouraged.

## 6. References

<sup>1</sup> <http://www.oxforddictionaries.com/definition/english/toy>

<sup>2</sup> <http://www.independent.co.uk/news/business/analysis-and-features/why-the-toy-industry-may-not-have-much-to-look-forward-to-this-christmas-8424764.html>

<sup>3</sup> Study on the competitiveness of the toy industry, Final Report, Client: DG Enterprise and Industry, Rotterdam, 30 August

<sup>4</sup> TIE's facts and figures brochure <http://www.tietoy.org/toy-sector-in-europe/statistic/>