Office for Product Safety & Standards

Product Safety: Baseline Compliance Research

December 2023

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1   Executive summary

OPSS remit

1.1   The Office for Product Safety and Standards (OPSS) is the UK's product regulator. We are responsible for the regulation of most consumer goods (excluding food, medicines and vehicles) and we are the national regulator for construction products. We hold policy responsibility for product safety, legal metrology (weights and measures), standards and accreditation, hallmarking, and Primary Authority. We enforce regulations across the product lifecycle from design, manufacture and assessment through to supply, end use and safe disposal.

Product safety landscape

1.2   The product safety landscape is complex and fragmented. A key role for OPSS is to improve this through the Product Safety Review, including increasing understanding with greater availability of data through its Data Strategy, in order to protect people from harm and build business confidence.

1.3   There is a general absence of good-quality national data on consumer product compliance. OPSS is committed to contributing to the understanding of product safety compliance across all marketplaces.

Baseline compliance research

1.4   OPSS identified a general absence of good-quality national data on consumer product compliance. This includes a lack of compliance information available on the difference between buying online compared to in-store.

1.5   OPSS commissioned research to build an understanding of the market and to understand compliance across a targeted basket of popular products.

1.6   The aims of the research were:

A) Develop and test a methodology to generate baseline compliance data across a 'basket of goods' comprising popular products bought online and in-store.

B) Develop a system of testing these products in a laboratory setting, against the appropriate standards and regulations.

C) Assess baseline product safety compliance for the OPSS basket of goods.

Insight

1.7   This research successfully created an OPSS basket of popular products. The OPSS basket of goods reflected consumer purchasing habits by sampling products both online and in-store. Online stores included all types of online stores, not just online marketplaces. The research successfully utilised laboratory testing of products. This approach allowed more detailed understanding of product compliance compared to previous studies that mostly determined compliance by online visual checks. However, the use of laboratory testing has meant this research has been resource intensive. The resource and costs implications would have to be considered if this research was repeated.

Compliance

1.8   Product compliance was determined only for each product category in the OPSS basket of goods. Of the 700 products tested within the OPSS basket of goods between October 2021 and March 2022, 360 were fully compliant with all relevant requirements.

1.9   The research reports product compliance for the OPSS basket of goods by the source of where the product was purchased. For the OPSS basket of goods, in-store had a higher number of compliant products (191 out of 350) compared to online (169 out of 350).

1.10   Non-compliance involved labelling and marking issues that would likely not directly impact safety and failure of an aspect of testing that could cause harm. The OPSS risk unit supported these findings through risk assessment. Within the OPSS basket of goods the number of products with non-compliance that could cause harm was similar for both online (42 out of 350) and in-store (39 out of 350).

Conclusions

1.11   Results cannot be used to estimate compliance at a wider or national level, due to the sampling methodology used. Products purchased online for this research were for all online store types.

1.12   OPSS has found this research to be a useful exercise that demonstrates the need for a strong evidence-base to monitor the changing nature of how consumers buy products.

➢ OPSS has learnt the advantages and disadvantages of the methodology used for this research. In the future, OPSS can use these learnings to improve the methodology to assess for product compliance. The findings of the research have been used as an intelligence source to inform our regulatory interventions.

2   Introduction

Our remit

2.1   The Office for Product Safety and Standards (OPSS) is the UK's product regulator. We are responsible for the regulation of most consumer goods (excluding food, medicines, and vehicles) and we are the national regulator for construction products. We hold policy responsibility for product safety, legal metrology (weights and measures), standards and accreditation, hallmarking, and Primary Authority. We enforce regulations across the product lifecycle from design, manufacture and assessment through to supply, end use and safe disposal.

Our purpose

2.2   Our primary purpose is to protect people and places from product-related harm, ensuring consumers and businesses can buy and sell products with confidence.

2.3   We act to keep citizens safe by keeping products safe. We seek to ensure consumers receive fair measures and get what they pay for. We work to limit the negative effects that products, their supply chains, and their disposal can have on our environment. We facilitate products and markets that support clean growth and the transition to net zero.

2.4   Delivering these protections in a fair and transparent way helps maintain consumer confidence in markets and helps to support innovation and sustainable business growth.

2.5   We use science, evidence and data to shape our interventions. We act proportionately, guided by the risk of harm, and seek to minimise complexity and cost for businesses and consumers.

Our objectives

2.6   Our core objectives, as outlined in the OPSS Product Regulation Strategy 2022-2025, are to:

- deliver protection through responsive policy and active enforcement;
- apply policies and practices that reflect the needs of citizens;
- enable responsible businesses to thrive;
- coordinate local and national regulation;
- inspire confidence as a trusted regulator,

Outcomes

2.7   The outcomes we seek to deliver for citizens, business, and the environment are that:

- people are protected from product related harm and can buy products with confidence;
- businesses comply with their legal obligations and responsible businesses can operate with confidence;
- the environment is protected from product-related harm and product regulation supports the transition to net zero.

3   Background and objectives

Why product markets are regulated

3.1   Regulations are necessary for the proper functioning of societies. Well-designed and well-implemented regulations establish essential ground rules that protect the rights and safety of citizens, businesses, and the environment. Good regulation also provides the confidence that is needed to underpin markets and to support sustainable economic growth.

3.2   Since 2018, OPSS has led and coordinated the UK's product safety system. In that time, OPSS has intervened to prevent unsafe products from reaching consumers, coordinated large scale product recalls, and invested in research and intelligence to improve work with local authorities, including checks on unsafe products at UK ports and borders. This has allowed for greater coordination of the product safety system and more targeted interventions based on evidence and risk.

Product Safety Review

3.3   OPSS is leading the government's consultation on changes to the EU-derived framework for product safety regulation, to establish an approach that is proportionate, innovative and forward-looking, and protects consumers from unsafe goods. UK product regulation and the supporting legislation have evolved over time as technologies and markets have changed to provide strong protection for citizens. But more recent changes in routes to market and purchasing patterns have created new risks to consumers, particularly in the online space. The Product Safety Review and changes to the way we enforce regulation will seek to address these.

3.4   The UK has some of the strongest product regulations in the world – but products and markets are constantly evolving, and regulation needs to keep pace. The Product Safety Review aims to update the legislative framework to provide a flexible foundation that can adjust more easily to change.

3.5   From online marketplaces to connected devices, the way we buy products and the products themselves have seen significant changes in recent years and the pace of change is accelerating. Supply chains are global, interconnected, and complex. Internet sales have grown significantly over the past decade, and, in March 2023 26% of all UK retail sales occurred online compared to about 10% ten years ago (source ONS). In a digital world, data and information are key tools in supporting consumers and enabling responsible businesses to comply with the law. Better use of data and evidence can help us address the sale of unsafe and non-compliant goods online, a challenge witnessed across borders and shared by many countries.

3.6   eCommerce has brought an unprecedented challenge to the product safety legal framework, which was designed before the emergence of online business models. When products are sold online, the supply chain is often complex and some businesses are unaware or choose to not comply with their legal responsibilities. This can make it easier for unsafe and non-compliant products to be sold to UK consumers and place businesses selling compliant products at a disadvantage.

Existing product compliance evidence

3.7　There is a general absence of good-quality national data on consumer product compliance. This includes a lack of compliance information available on the difference between buying online compared to in-store.

3.8　The OECD Working Party on Consumer Product Safety (WP) conducted a product safety sweep in April 2015. Overall, 25 jurisdictions participated from across Asia, Australia/Oceania, Europe, the Middle East and North and South America. The sweep covered 1,709 products, with toys and games (18% of products) and household electrical goods (16%) accounting for most inspections. Of the products inspected 73% were via retailers' websites and 27% from e-commerce platforms. The product sweep found that the overall compliance rate was 26%, with compliance ranging from 21% to 32% compliance depending on the type of test performed.

3.9　The OECD sweep carried out a limited number of physical inspections. Of the 1,709 products inspected, 141 products were purchased for inspection and testing, with most inspections conducted from visual inspections on websites. Visual inspections on websites can be a cost effective and efficient way to determine whether a product is visibly non-compliant (e.g., labelling deficiencies, incorrect construction). However, visual inspections cannot replicate the level of detail from a physical inspection or testing (e.g., internal wiring, chemical composition).

3.10　Furthermore, the OECD sweep did not show whether compliance differed between in-store and online sellers as there was no like-for-like comparison with products from store retailers.

3.11　Research from the consumer organisation Which? tested 'unknown brands' of USB chargers, travel adapters and power banks listed for sale on AliExpress, Amazon Marketplace, eBay and Wish. Which? found that three quarters of 35 products failed electrical safety tests.

3.12　A 2020 report by BEUC (The European Consumer Organisation) tested 250 electrical goods, toys, cosmetics and other products from online marketplaces. Products were first subject to visual inspection; if further inspection was required the products were tested in a laboratory. The report found that 34% of products tested were compliant with the relevant EU safety laws.

Strengthening our product compliance data

3.13　While the previous research enhances understanding of product compliance internationally, OPSS wanted to understand UK product compliance in greater detail.

3.14　OPSS commissioned research to develop its understanding of the compliance of products sold by online and offline retailers by testing compliance across a targeted basket of popular products.

OPSS baseline compliance research

Aims

3.15 The aims of the research were:

A) Develop and test a methodology to generate baseline compliance data across a 'basket of goods' comprising popular products bought online and in-store.

B) Develop a system of testing these products in a laboratory setting, against the appropriate standards and regulations.

C) Assess baseline product safety compliance for the OPSS basket of goods.

Creating OPSS basket of goods

3.16 OPSS basket of goods refers to a list of products that would be tested. As part of creating an OPSS basket of goods, the following sub-aims were identified:

- The OPSS basket of goods method would be robust and repeatable to ensure changes to compliance could be monitored over time through subsequent data collection.

- Products selected for inclusion would use a risk and intelligence led basket of product categories rather than trying to estimate compliance across the entire product safety landscape.

- Products would reflect consumer purchasing habits by testing products bought online and in-store.

- Within the basket of goods 'popular products' would be targeted. 'Popular products' refer to 'products which are owned by many people and purchased regularly or semi-regularly'.

Advantages of new research

3.17 The advantages of OPSS commissioning research:

- The research would be UK-focused adding to the OECD global evidence picture.

- The research would carry out laboratory testing of products.

- The products purchased would reflect consumer patterns of buying products both online and in-store.

4   Methodology

Project timescales

4.1   Products were purchased between October 2021 and March 2022.

Project coverage

4.2   Products purchased online covered the UK, whereas in-store purchases were purchased from stores in Sheffield, Birmingham, South London, Kent, and Reading.

Scope of the research

Online stores and online marketplaces

4.3   Purchases were made from online stores which reflect consumer purchase patterns. This includes high street retailers, supermarkets, an online seller, third-party sellers using on-line marketplaces and direct from manufacturer websites. Conclusions from the online sample refer to this mix of online retailers. Conclusions cannot be made about specific types of online retailer, for example just the online marketplaces.

Products within OPSS basket of goods

4.4   Product compliance reflects the products chosen from the OPSS basket of goods only and does not represent all consumer products.

Creating the OPSS basket of goods

4.5   The following outlines the steps undertaken to create the OPSS basket of goods.

Step 1. Selecting the product categories from the OPSS basket of goods

4.6   OPSS generated a list of products that would be tested. Two sources of data were used to help decide which product categories to include: the Office for National Statistics (ONS) consumer price inflation basket of goods and services 2019 and the OPSS Product Safety and Consumers (PS+C) wave 1 2021 survey.

4.7   ONS runs a monthly survey to measure consumer price inflation. This is the rate at which the prices of goods and services bought by households rise and fall. The consumer price indices are compiled using a large and representative sample of approximately 700 goods and services, and their price movements are regularly measured in approximately 20,000 outlets within the UK. The goods and services are chosen to be representative of general expenditure across the whole of the UK and changes over time to reflect trends in purchasing habits.

4.8   The OPSS PS+C survey is a biannual report that aims to understand and monitor consumers' awareness and attitudes to a range of product safety issues. It is a representative sample of 10,230 people from across the UK with a supporting telephone survey of 512 people who are very low or non-internet users.

4.9   OPSS chose the products based on the following factors:

- The products would cover a range of regulatory areas.

- The products would strike a balance between the cost and timescale required to deliver results, being representative and value for money.

4.10   OPSS generated a final list of products by cross-referencing the ONS Basket against the OPSS PS + C research. OPSS used the following questions to generate a final list:

- Is this product contained in the ONS basket of goods?

- Is this product regulated by OPSS?

- Is this product mentioned in OPSS' Public Attitudes Tracker (PAT) as a product purchased in the last six months by respondents?

- How frequently was this product mentioned in the PAT?

- Is there any supplementary data to support this product being deemed popular?

- How would the inclusion of this product affect the overall regulatory area balance of the basket?

4.11   Overall, 15 product categories were chosen for this research, as set out below:

- Bluetooth ® Headphones
- Children's Nightwear
- Children's Scooters
- Coin/Button Batteries
- Dolls
- Hair Colourant
- Hair Straighteners/Tongs
- Kettles
- Liquid Foundation
- Mobile Phone Chargers
- Oven Gloves
- Scatter Cushions
- Scented Candles
- Table Lamps
- Smart Speakers

Step 2. Selecting products to buy online and in-store

4.12   The research aimed to be representative of how customers buy their products between online and in-store.

4.13   Data was used on the proportion of each product typically purchased online compared to in-store. The OPSS 2019 Consumer Attitudes Survey (CAS), PS+C (waves one and two) and ONS retail sales data were used.

4.14   In 2019, the CAS survey indicated that 30% of the products mentioned by respondents were purchased online. This rose to an average of 70% in waves one and two of the PS+C covering June 2020 to May 2021. This period was at the height of Covid-19 restrictions, and, at the time, there was no later PS+C data available to assess whether the proportion of online purchasing had changed since

then. Looking at the trend in the ONS retail sales data, by September 2021 approximately half of the increase between 2019 and the 2020 peak had been lost. Applying this broadly to the 2019 and 2020/1 PS+C data resulted in an online proportion of approximately 50%.

Step 3. Selecting retailers

4.15 The research also aimed to be representative of how customers buy their products between different types of retailers for both in-store retailers and online retailers.

4.16 There were limited sources of data on which to base this methodology. The PS+C data contained data on the proportion of respondents who purchased a product from a certain retailer type.

4.17 Some products (hair straighteners, scatter cushions) were not included in the PS+C data, and so the retailer-split values of similar items were applied where possible. For products where there were no similar items in the PS+C data (such as coin batteries, oven gloves, and scented candles) the average retailer-split values of all retailer types across online or in-store were used instead.

4.18 Tables 2 and 3 in Annex two show the proportions of products purchased from each retailer type for both in-store and online.

Step 4. Sample size of products

4.19 For each of the 15 product categories there were 50 unique products purchased. Half of the 50 unique products were purchased online and half were purchased in-store. Overall, 750 individual products were purchased online and in-store.

Step 5. Selecting models of products to purchase

4.20 The final step for purchasing products was to determine which retailers to select and product models to purchase for both online and in-store retailers.

4.21 The online product selection and purchasing was carried out by OPSS, while the in-store selection and purchasing was conducted by an external supplier.

4.22 Models purchased in-store and online were selected independently of each other. As a result, a small number of models appear in both the online and in-store product sections of the basket, although no models were duplicated within online or in-store retailers.

4.23 A 'different model' is defined as, 'a model with a fundamental difference to another which impacts its use or chemical composition' e.g., a different generation, additional functions.

4.24 Product selectors used the following methodology to select products:

- Product selectors were asked to target popular products. Popular products here refer to 'products which are owned by many people and purchased regularly or semi-regularly'.

- For in-store purchases product selectors purchased the best sellers or most popular product in each store by using a similar approach to the Consumer Prices Index, such as selecting products with the most shelf space. Selectors also consulted staff members in-store regarding best sellers before a product was selected and purchased.

4.25 The following approach was used to select popular products from online retailers.

- Step 1: Product selectors entered 'buy [product name]' into Google and moved through the search results ignoring 'Google Ads' and 'Google Marketplace'. Given that some retailer types are less likely to have as wide a range of stock as others, product selectors worked through retailers in a specific order (see Table 5) to avoid purchasing more than three items from the same brand.

- Step 2: Once a suitable retailer had been identified, product selectors used the company website's search facility, including filters such as 'best sellers', to identify a suitable range of products. Websites with such filters were prioritised but for those where they were not available, the number of customer reviews was used instead as a proxy indicator of popularity.

- Step 3: Selectors then worked through the available products in order of popularity/number of reviews, whilst also checking that they would be able to purchase sufficient sample numbers. Selectors also recorded their decision-making during this process which was then reviewed to ensure consistency.

4.26 A maximum of five models per brand or retailer was imposed. In most cases, no more than three products per brand or retailer were purchased. However, this was not always possible due to brand market share.

4.27 Products were first purchased from retailers which were perceived to stock a narrower range of products contained within the OPSS basket of goods. Products were then purchased from retailers who were perceived to have a wider range of stock.

4.28 Product selectors were asked to purchase products in order of the retailer types (see Table 5 in Annex two).

4.29 For in-store products it was not possible to sample stores over the whole of the UK due to operational constraints. Products were sourced from stores in Sheffield, Birmingham, South London, Kent, and Reading.

Step 6. Laboratory testing

4.30 The final stage was to test product compliance in the laboratory. All products were tested for compliance with the relevant requirements from the relevant Regulations and/or the relevant clauses of the designated standard/s (except coin/button batteries).

4.31 Each product category needed a different number of multiples for laboratory testing. This resulted in overall 2,400 products being purchased (see Table 6 in Annex two).

4.32 A designated standard is a standard that is recognised by the Secretary of State in part or in full by publishing its reference on GOV.UK. These Standards help businesses meet their legal obligations to ensure products comply with the essential health and safety requirements established by the relevant Regulation. They provide a rebuttable presumption of conformance with the Regulations if they are applied appropriately.

4.33 Full compliance testing across 15 different product categories spanning multiple regulatory areas was not possible due to practical and time constraints. Where full compliance testing could not be conducted, efforts were made to test as comprehensively as practicable and prioritise safety elements that could potentially result in the greatest harm to consumers.

4.34   In total, 5 out of 15 products were tested against all applicable Regulations and clauses in the relevant Standards; 7 out of 15 products were partially tested against the applicable Regulations and Standards; 2 out of 15 products were tested against the relevant Regulation only; and 1 out of 15 products were tested against a Publicly Available Specification (PAS). A more complete explanation of the reasoning for the final testing specification can be found in Tables 7 and 8 in Annex two.

5   Baseline product compliance insight

Products tested from the OPSS basket of goods

5.1   Laboratory testing was carried out on each of the 50 models across the 15 product categories included in the OPSS basket of goods with 97% (733/750) of test results being received.

5.2   Partial data were received for smart speakers (34 test results out of 50 smart speakers) due to operational challenges. Product compliance is therefore based on 14 product categories as opposed to 15 product categories in the OPSS basket of goods.

How product compliance is measured

5.3   Products were tested against a number of the relevant Regulations and/or Standards (see Table 8 in Annex two). A product would be non-compliant if it failed at least one of the requirements of the Regulation and/or Standard against which it was tested.

Usage of the data

5.4   Due to the methodology used for this research there are limitations with how the data can be used. OPSS has outlined below how the data can and cannot be used.

How the data can be used

5.5   Product compliance can be shown by individual product category. Product compliance reflects the products chosen within the OPSS basket of goods only, and does not represent all products.

5.6   Product compliance reflects the products tested in this research only. The rate does not reflect national level compliance (see paragraph 5.11).

5.7   Product compliance rates can be compared between in-store retailers and online retailers since the same methodology was used for both. Products purchased online for this research were for all online store types as opposed to online marketplaces only.

5.8   Case studies can be used to provide greater understanding of testing for particular products.

How the data cannot be used

5.9   Product comparisons cannot be made as each product category was tested against different regulations and/or Standards.

5.10   Product compliance rates cannot be used to estimate compliance at a national level due to the sampling methodology used within this research. Product selectors were tasked with picking popular products where possible which resulted in products not being chosen at random and therefore adding bias to the sample. Statistical testing such as confidence intervals has therefore not been used.

Methodological review

5.11 The following is a reflection against the original aims and objectives.

5.12 The research successfully resulted in the creation of an OPSS basket of goods of popular products.

5.13 Within the OPSS basket of goods there was sampling bias due to popular products being chosen as opposed to a random sample. This resulted in the OPSS basket not being able to be used for national level estimates.

5.14 If the research was repeated using the same methodology it would be difficult to make comparisons between different OPSS baskets of goods due to the sampling bias involved in selecting products.

5.15 The OPSS basket of goods did reflect consumer purchasing habits by sampling products both online and in-store (25 products were bought both online and in-store for each product category).

5.16 Laboratory tests were carried out on products which allowed detailed insight into real-world compliance.

5.17 The laboratory tests allowed follow-up triage of non-compliant products.

Product compliance

5.18 Product compliance from this research reflects the product categories chosen within the OPSS basket of goods. As noted in paragraphs 5.6-5.11, due to the methodology used, this research cannot reflect national level compliance.

5.19 Of the 700 products purchased in the OPSS basket of goods between October 2021 and March 2022, 360 were found to be compliant.

Product compliance by place of purchase

5.20 Our research compared product compliance between online and in-store retailers. As noted in paragraphs 5.6-5.11, the compliance rates reflect this research only and do not reflect national level compliance.

5.21 There was a slightly higher compliance for products purchased in-store compared to online. For the OPSS basket of goods 191 in-store products were compliant and 169 online products were compliant (both out of 350 products).

Product compliance by product category

5.22 Compliance rates cannot be compared between product categories as each product was tested against different regulations and/or Standards. The compliance rates reflect the products tested in the OPSS basket of goods only and do not reflect compliance at a national level (please see Table 8 in Annex two for Regulations and Standards applied).

5.23 Case studies have been provided in Annex one which outline the type of laboratory tests undertaken and detailed explanations of compliance for each product category.

6 Understanding product non-compliance

6.1 OPSS has used insight from this research to understand why products did not meet compliance.

6.2 The products were purchased as part of product research, not as part of OPSS regulatory activities. Consequently, this affected the enforcement approach to any non-compliance.

6.3 Non-compliances fell into two categories: those involving labelling and marking issues that would likely not impact safety and those that failed an aspect of testing that could cause harm. The OPSS risk unit supported these findings through risk assessment.

6.4 Within the OPSS basket of goods, the level of products with non-compliance that was subsequently risk assessed as having the potential to cause harm was similar for both online (12%) and in-store (11%) products.

6.5 OPSS followed up these instances of non-compliance by writing to manufacturers and distributors setting out the nature and findings of the tests carried out and where appropriate recommending actions to deal with the non-compliances found.

6.6 Two product areas were highlighted as needing further action due to the nature of the non-compliance and the risk associated with it: button batteries and mobile chargers.

6.7 Button batteries are a product of a concern for OPSS and the findings have been fed into broader work on this topic.

6.8 The mobile charger results were fed into an enforcement project that focused on the products of high concern highlighted in this report, along with their variants. From this work, a number of products have been recalled or delisted from the relevant website.

7 Conclusion

Conclusions

A) Methodology

7.1 OPSS has found this research to be a useful exercise that continues to demonstrate the need for a strong evidence-base to monitor the changing nature of how consumers buy products.

7.2 OPSS has learnt the advantages and disadvantages of the methodology used for this research. In the future OPSS can use these learnings to improve this methodology to assess for product compliance. OPSS will take learnings from this research to develop a robust methodology for an OPSS basket of goods.

7.3 This research successfully created an OPSS basket of popular products. The OPSS basket of goods reflected consumer purchasing habits by sampling products both online and in-store. Online stores were a mix of online store types, as opposed to online marketplaces only.

B) Testing

7.4 The research successfully commissioned laboratory tests on products. This approach allowed more detailed understanding of product compliance compared to previous studies that mostly assessed compliance by online visual checks only. However, the use of laboratory tests has meant this research has been resource intensive. The resource and costs implications would have to be considered if this research was repeated.

7.5 The use of laboratory testing developed our knowledge of compliance. This is demonstrated through case studies for each product category.

C) Compliance

7.6 Product compliance was tested only for each product category in the OPSS basket of goods. Therefore, results cannot be used to estimate compliance at a wider or national level due to the sampling methodology used. Of the 700 products tested within the OPSS basket of goods between October 2021 and March 2022, 360 were compliant.

7.7 The research showed product compliance for the OPSS basket of goods by where the product was purchased. Online stores included a mix of types of online stores, rather than online marketplaces only. For the OPSS basket of goods, in-store had a higher number of compliant products (191 out of 350) compared to online (169 out of 350).

7.8 Non-compliances fell into two categories: those involving labelling and marking issues that would likely not impact safety and those that failed an aspect of testing that could cause harm. The OPSS risk unit supported these findings through risk assessment. Within the OPSS basket of goods the level of products with non-compliance that could cause harm was similar for both online (12%) and in-store (11%) products.

7.9 Two product areas were highlighted as needing further action due to the nature of the non-compliance and the risk associated with it: button batteries and mobile chargers.

7.10 Button batteries are a product of a concern for OPSS and the findings have been fed into broader work on this topic. More information is available in OPSS Delivery Report 2022-2023.

7.11 The mobile charger results fed into an enforcement project that focused on the products of high concern highlighted in this report, along with their variants. From this work, a number of products have been recalled or delisted from the relevant website.

Annex 1

Product case studies

This Annex provides case studies of product category that have been tested for this research.

Bluetooth Headphones

Bluetooth headphones are regulated by the Radio Equipment Regulations 2017. Due to operational constraints, full compliance testing was not practicable. Instead, full EMC testing was carried out alongside selected safety clauses relating to requirements for listening devices. The headphones were tested against the below standards and labelling checks carried out in accordance with the regulations.

EN 55032:2015+ A11:2020, Electromagnetic compatibility of multimedia equipment. Emission Requirements (tested in full)

EN 55035:2017, Electromagnetic compatibility of multimedia equipment. Immunity requirements (tested in full)

EN 62368 -1:2014 +AC:2015, Audio/video, information and communication technology equipment. Safety requirements (selected clauses tested)

The observed compliance rate for Bluetooth headphones was 60%. Of the 50 models tested 30 were found to be compliant. Of these 14 were purchased online and 16 were purchased from a bricks and mortar store.

All non-compliance found was due to various labelling deficiencies including missing UKCA/CE marking, missing voltage/current rating, and missing manufacturer address.

Risk Triage – Negligible/Low Risk

Given the nature of the non-compliances found, it is unlikely that any risk outcomes above low would arise.

Children's Nightwear

Children's nightwear is regulated by the Nightwear (Safety) Regulations 1985 (as amended). All nightwear was tested against BS 5722:1984, Flammability performance of fabrics and fabric assemblies used in sleepwear and dressing gowns. Testing was also carried out against BS EN 14878:2007, Textiles – Burning behaviour of children's nightwear. Labelling and marking requirements as per the regulations was also assessed. These standards contain various requirements including those which pertain to flame spread, surface flash, and labelling.

The observed compliance rate for children's nightwear is 84%. Of the 50 models tested 42 were found to be compliant. The eight non-compliant models were all purchased online.

All non-compliance was a result of manufacturers either failing to affix a label or not displaying the mandatory "Keep Away From Fire" (KAFF) warning as per the regulations.

Risk Triage – Low Risk

While there were failures in relation to the KAFF warning for these products, the products did ultimately meet the flammability requirements for children's nightwear. This means in the event of a child standing too close to a flame, the fire-retardant property of the product should be sufficient to mitigate a fire taking hold of the fabric before the fire can be treated

and/or the nightwear removed. The risk created by the absence of this warning is therefore low. However, there will exist children's nightwear which lacks fire-retardant properties and it is therefore of vital importance that these important warnings are visible to help consumer ensure that adequate precautions are taken.

Children's Scooters

Children's scooters are regulated by the 'Toys (Safety) Regulations 2011'. All scooters were tested against the applicable standard in full 'BS EN 71-1:2014+A1:2018, Safety in toys – Part one: Mechanical and physical properties'. The regulations are wide-ranging with requirements including limitations on protruding parts, product stability, acoustics, magnetism etc. 'Clause 4.15.5' focuses on the requirements for toy scooters including product strength, braking, and wheel size.

The observed compliance rate for children's scooters was 36%. Of the 50 models tested 18 were found to be compliant. Of these, six were purchased online and 12 were purchased from off-line stores.

Five scooters were found to have a problem with the adjustable steering tube which posed a shearing risk to small fingers, three failed due to the weakness of the steering tube, and one failed due to hazardous sharp edges. Two scooters failed because of a braking failure. The failure was because the scooters required a greater force to halt the scooter than set out in the standard. Two scooters failed because the handles were thinner than prescribed in the standard. 35 scooters failed due to the absence of warnings and other labelling deficiencies.

<u>Risk Triage – Medium Risk</u>

Several common hazards were identified across some of the children's scooters suggesting a potential industry-wide issue and this may merit further investigation to understand more preciously these risks. Mostly, the hazards would result in a low to medium risk outcome. However, it is important to note that there will always be an inherent level of harm associated from the intended use of a children's scooter that may arise from a lack of balance, control, or a hazard in the user's path. A failure in the product's design and/or build should not increase the expected risk associated with the product and would not be the focus of any investigation.

Coin/button batteries

We tested 50 button batteries. All the batteries purchased as part of this project were standalone products and were not contained within other products such as toys.

We tested the product against the Publicly Available Specification (PAS) 7055:2021, Button and coin batteries – Safety requirements. Clause 4.1 Child-resistant packaging for batteries and 4.2 Warning and information for batteries. In accordance with PAS 7055:2021 Clause 4.1, BS EN IEC 60086-4:2019 Primary batteries, Safety of lithium batteries, Annex E was used to assess the safety of the packaging housing the batteries purchased during the project.

There are four key tests within this standard which are Pushing, Bending, Torsion, and Tearing. For each of these tests the battery packaging is placed under tension in a specific way a specified number of times. The tests are carried out consecutively on the same packaging meaning the packaging can deteriorate over the course of testing.

All batteries failed against Clause 4.2, Warning and information for batteries and 43 failed against 4.1, Child-resistant packaging for batteries. Within these 43, 27 failed after the first two tests including eight which failed the first test in the series. 10 batteries failed against the first Tearing Test meaning that the coin cell was easily exposed and made accessible. 35 products failed before the final Pushing Test and of the 15 products which did make it through to this test, eight products then went on to fail after one push. This means that the coin cell was exposed or 'popped out' which would allow children to easily access it and potentially go on to ingest it.

Risk Triage – High/Serious Risk

Button and coin cell batteries can be particularly dangerous if swallowed as they can become stuck in the oesophagus causing an alkaline corrosive injury which can result in significant tissue damage and may even be fatal without appropriate medical intervention. Inadequate warnings or markings and failure of the packaging to prevent or minimise unintended access can result in a high or serious risk in cases of ingestion. This is especially so with children.

Dolls

Dolls are regulated by the 'Toys (Safety) Regulations 2011'. All dolls underwent full compliance testing against the relevant standards 'BS EN 71-1:2014+A1:2018', 'BS EN 71-2: 2011 + A1:2014', 'BS EN 71-3: 2019+A1:2021', and 'BS EN 2115:2005+A12:2015'. These standards cover a wide range of requirements including the use of moving parts, flammability, the migration of certain elements, and the use of electrical components where applicable. Labelling and marking requirements according to the regulations were also assessed.

The observed compliance rate for dolls was 78%. Of the 50 models tested 39 were found to be compliant. Of these 18 were purchased online and 21 were purchased from an offline store.

Non-compliances found included four dolls that failed against 'BS EN 71-1, Clause 5.2, Soft-filled toys, and soft-filled parts of a toy relating to fibrous material' that, when handled, can produce small parts which are accessible to children. A further three dolls failed due to potential choking hazards resulting from two with detachable elastic hair bands and one from a button which could be broken into pieces. There were two dolls which failed due to fibrous material being accessible also failed to meet the flammability requirements contained in 'BS EN 71-2, Clause 4.5, Soft-filled toys' due to fire spreading more quickly than the prescribed limit when tested. 37 dolls failed due to inadequate labelling or markings.

Risk Triage – Low/Medium

The risk from children's toys is a priority matter for OPSS, and the evidence from this research suggests that there is still room for improvement in the sector. The risks that were identified were low to medium and quite diverse in nature, with no evidence of an emerging issue, or higher-level risks within this sub-category of toy.

Hair Colourant

Permanent hair colourant is regulated by Regulation 2009/1223 on Cosmetic Products as amended. As with water-based liquid foundation, there is no standard against which to test for non-compliance. However, within Regulation 2009/1223 there is a list of restricted or prohibited substances including colourants, preservatives, and UV-filters. OPSS decided

to determine the concentration of three types of chemicals which are commonly found in permanent hair colourant and are restricted within Regulation 2009/1223 in Annex III. Labelling and marking requirements as per the regulation were also assessed.

Annex III Entry 8(b): p-Phenylenediamine (PPD)

Annex III Entry 22: Resorcinol

Annex III Entry 12: Hydrogen Peroxide

The observed compliance rate for hair colourants was 36%. Of the 50 models tested 18 were found to be non-compliant. Of these 11 were purchased online and seven were purchased from a bricks and mortar store.

None of the hair colourants failed due to their composition, however, a range of labelling and/or marking deficiencies were identified including missing chemical mix ratios, missing mandatory precautions, and mismatching ingredients.

Risk Triage – Low/Medium Risk

Hair colourants can contain chemicals which may cause adverse health effects, primarily through skin contact, if used incorrectly, therefore appropriate labelling is of vital importance. In most cases, adequate labelling was identified on some portions of the packaging but not all, whilst in others the labelling was confusing and could lead to incorrect usage. This leads to a risk profile of low to medium.

Hair Straighteners/tongs

Hair straighteners are regulated by the 'Electrical Equipment (Safety) Regulations 2016' (EESR). All products were tested against selected clauses from 'BS EN 60335-2-23:2003+A2:2015, Household and similar household appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care'. Due to operational constraints, testing against the whole standard was not practicable and so the below clauses were selected as they were deemed to pose the greatest potential risk to consumers. Products were also tested against the EESR marking requirements.

Clauses tested against:

Clause eight: Protection against access to live parts

Clause 13: Leakage current and electric strength at operating temperature

Clause 21: Mechanical strength

Clause 22: Construction (except clause 22.32 ageing test and 22.46 PEC) and others

The observed compliance rate for hair straighteners/tongs was 38%. Of the 50 models tested 19 were found to be compliant. Of these 10 were purchased online and nine were purchased from a bricks and mortar store.

Eight products failed against 'Clause 22, Construction' with all failures caused by a lack of definition between the holding part of the device and hot surfaces. There were 28 hair straighteners/tongs, including three products which failed against 'Clause seven, Marking and instructions', which failed due to missing or inadequate labelling, usage instructions, or requisite UKCA/CE marking and postal address of the relevant economic operator.

<u>Risk Triage – Low Risk</u>

While some of the products tested did not have the required delineation of the holding part of the handles, the overall risk is considered low. However, as eight of the products tested failed this requirement it may indicate an issue with the interpretation of the test requirement or the understanding of the test requirement. Further investigation to understand the reason/s for the deviation may be beneficial.

Kettles

Kettles are regulated by the 'Electrical Equipment (Safety) Regulations 2016' (EESR). All products were tested against selected clauses from 'EN 60335-2-15:2016 + A11:2018, Household and similar safety electrical appliances – Safety – Part 2-15: Particular requirements for appliances heating liquids'. Due to operational constraints, testing against the whole standard was not practicable and so the below clauses were selected as they were deemed to pose the greatest potential risk to consumers. Products were also tested against the 'EESR' marking requirements.

Clauses tested against:

Clause 8: Protection against access to live parts

Clause 13: Leakage current and electric strength at operating temperature

Clause 21: Mechanical strength

Clause 22: Construction (except clause 22.32 aging test, 22.46 PEC, and 22.103 endurance test)

Clause 27: Provision for earthing

The observed compliance rate for kettles was 58%. Of the 50 models tested 29 were found to be compliant. Of these 16 were purchased online and 13 were purchased from an offline store.

Seven kettles failed against 'Clause 22, Construction', specifically in relation to water leaking from the lid when poured. 17 of kettles, including four which failed against Clause 22, failed to display adequate labelling or instructions as per Clause seven – Visual check markings and instructions and according to the regulations.

<u>Risk Triage – Further investigation necessary</u>

Where a hazard was identified within this sub-category of electrical appliances, it related to the escape of water via the lid when pouring the kettle whilst at capacity. This can lead to burns from splashing water, the severity of which will depend on the amount of water that is able to escape. It may also give rise to a harm from slips and falls if the escaped water pooled on the floor. Further investigation into the extent of the leakages is needed to provide a more comprehensive assessment of risk.

Liquid Foundation

Water-based liquid foundation is regulated by Regulation 2009/1223 on Cosmetic Products as amended. Unlike the non-cosmetic products in the OPSS Basket, there is no standard against which to test for non-compliance. However, within Regulation 2009/1223 there is a list of restricted or prohibited substances including colourants, preservatives, and UV-filters. OPSS decided to determine the concentration of three types of chemicals which are commonly found in water-based liquid foundation and are restricted within Regulation

2009/1223 in Annex V. Labelling and marking requirements as per the regulation were also assessed.

Annex V Entry 1: Sodium Benzoate

Annex V Entry 12: Parabens (methyl, ethyl, propyl, butyl)

Annex V Entry 29: Phenoxyethanol

The observed compliance rate for foundation products was 50%. Of the 50 models tested 25 were found to be compliant. Of these 10 were purchased online and 15 were purchased from a bricks and mortar store.

One product was found to contain phenoxyethanol at a level of 1.3%, the limit for use in cosmetics is 1%. Two products were found to contain parabens and phenoxyethanol respectively despite these chemicals not being declared on the label or packaging. 23 products were found to have labelling or marking deficiencies including the mislabelling of ingredients, missing product batch numbers, and/or no durability date.

Risk Triage – Low Risk

During testing, slight exceedances of chemical limits were found as well as discrepancies between the labelling and chemical content. However, none of these findings would be likely to result in adverse health effects therefore posing a low risk to consumers. Further investigation into the wider labelling deficiencies may be beneficial.

Mobile phone chargers

Mobile phone chargers are regulated by the 'Electrical Equipment (Safety) Regulations 2016' (EESR). All products were tested against selected clauses from 'EN 62368-1:2014/AC:2015, Audio/video, information, and communication technology equipment – Part one: Safety requirements'. Due to operational constraints, testing against the whole standard was not practicable and so the below clauses were selected as they were deemed to pose the greatest potential risk to consumers. Products were also tested against the 'EESR' marking requirements.

Clauses tested against:

Clause 5.3: Protection against electrical energy sources

Clause 5.4.9: Electric strength (without humidity conditioning)

Clause G.4.2 Direct plug-in equipment (clause 12.1 of BS 1363-1)

Clause G.5.3: Transformers

Clause 5.4.2 and 5.4.3: Measurement of creepage distances and clearances

Annex F: Equipment markings, instructions, and instructional safeguards

The observed compliance rate for mobile phone chargers was 42%. Of the 50 models tested 21 were found to be compliant. Of these, seven were purchased online and 14 were purchased from a bricks and mortar store.

Various warning labels and marking deficiencies were also found. 20 products were found to be deficient in labelling as per Annex F in the standard and the relevant clauses in the regulations including missing instructions, lacking information about the AC rating, and missing the manufacturer's address.18 products were found to fail in clearance measurement as per clause 5.4.2.

<u>Risk Triage – High/Serious</u>

Of the products tested, 18 chargers failed against 'Clause 5.4.2, Measurement of clearances' as, when dropped as part of the testing procedure, the product casing broke and the live parts (230 V) became accessible. This presents a significant electrocution hazard and a risk ranging from high to serious depending on the ease of accessibility to the live parts.

Oven gloves

Oven gloves are regulated by Regulation (EU) 2016/425 on Personal Protective Equipment. All products were tested against selected clauses in BS EN 407:2004, Protective gloves against thermal risks (heat and/or fire). Due to operational constraints, testing against the whole standard was not practicable and so the below clauses were selected as they were deemed to pose the greatest potential risk to consumers.

Clauses tested against:

Clause 4.2: Sizes

Clause 6.2: Tear Resistance

Clause 6.4: Contact Heat

The observed compliance rate for oven gloves was 32%. Of the 50 models tested 16 were found to be compliant. Of these six were purchased online and 10 were purchased from an offline store.

There were 11 oven gloves which failed against Clause 6.4, Contact Heat and 30 gloves, including seven which failed against Clause 6.4, which did not comply with the marking or labelling requirements as per the regulations.

<u>Risk Triage – Low/Medium Risk</u>

The back of an oven glove is required to withstand and protect the wearer to a maximum temperature of 250°C for a duration of 15 seconds. 11 oven gloves failed to meet this requirement which may result in injury of the wearer in the form of burns. Contact with hot surfaces from the back of the glove would likely be a consequence of accidental contact, compared to purposefully using the glove to handle a cooking implement such as a roasting tray. Risk outcomes are within the range of low to medium given the temperature and circumstances required for a burn to occur.

Scatter Cushions

Scatter cushions are regulated by the Furniture and Furnishings (Fire Safety) Regulations 1988 (as amended). All cushions were tested in full against the applicable standard, BS 5852-2:1982 (Schedule 2 Pt 1), Fire tests for furniture – Methods of test for the ignitability of upholstered composites for seating by flaming sources.

The observed compliance rate for scatter cushions was 82%. Of the 50 models tested 41 were found to be compliant. Of these 21 were purchased online and 20 were purchased from an offline store.

Nine scatter cushions failed in relation to fire safety requirements, the majority of which continued to flame for more than 120 seconds after the removal of an ignition source. Two out of the nine cushions failed because flaming essentially consumed the test specimen within the duration of the test. Two products, including five which failed flammability tests,

were found to be non-compliant due to warning and other labelling deficiencies as prescribed in the Regulations.

<u>Risk Triage – Low Risk</u>

Some of the scatter cushions failed because they continued to flame for more than 120 seconds after the removal of an ignition source. This means in the event of a fire the cushion may add to the fuel load rather than slowing down the spread of a fire. None of the cushions contained potential ignition sources, such as built-in electrics. Therefore, the likely probability of a harm occurring because of this specific failure is low.

Scented Candles

Candles are regulated by the General Product Safety Regulations 2005 (GPSR) which require producers to only place 'safe' products on the market. Manufacturers are required to ensure their products are safe and any assessment of safety would consider the composition of the product packaging and consider the categories of consumers at risk when using the product (particularly the vulnerable). The candles were tested against BS EN 15493:2019 Candles – Specification for fire safety and BS EN 15494:2019 Candles – Product safety labels. BS EN 15493:2019 contains requirements including stability, flame height, and the aftersmoke time. BS EN 15494:2019 specifies safety information for burning indoor candles and includes requirements on how safety information will be displayed.

The observed compliance rate for scented candles was 78%. Of the 50 models tested 39 were found to be compliant. Of these 20 were purchased online and 19 were purchased from an offline store.

All 12 non-compliant candles failed to against BS EN 15494:2019, Clause four – Product Safety Labelling by not adequately displaying a general warning sign. One product failed to display any of the mandatory safety labelling as required by the standard. Non-compliance was split evenly between products sourced online and those purchased from bricks and mortar stores. Three products did not display the requisite name and address of the producer as required by the GPSR 2005.

<u>Risk Triage – Low Risk</u>

Given that all other mandatory symbols were affixed to the majority of the non-compliant candles, including a warning not to leave the candle unattended, it is unlikely that harm would come to an end-user due to this one warning symbol not being present. However, as 10 of the products tested failed this requirement it may indicate an issue with the interpretation of the test requirement or the understanding of the test requirement. Further investigation to understand the reason/s for the deviation may be beneficial.

Smart Speakers

Due to operational challenges, OPSS received test results for only 34 of the 50 smart speakers. Results were received for all 25 speakers purchased from an offline store, however, only nine results were received for 25 products sourced online. Of the 34 products tested 12 were found to be non-compliant.

Smart speakers are regulated by the Radio Equipment Regulations 2017. Due to operational constraints, full compliance testing was not practicable. Instead, full EMC testing was carried out alongside selected safety clauses relating to requirements for audio equipment. The speakers were tested against the below standards and labelling checks carried out in accordance with the regulations.

EN 55032:2015+ A11:2020, Electromagnetic compatibility of multimedia equipment. Emission requirements (tested in full)

EN 55035:2017, Electromagnetic compatibility of multimedia equipment. Immunity requirements (tested in full)

EN 62368 -1:2014 +AC:2015, Audio/video, information and communication technology equipment. Safety requirements (selected clauses tested)

There were two smart speakers which failed to operate as intended without operator input whilst being subject to testing as per EN55035:2017, Clause 4.2.2.2, Radiated Immunity. One speaker failed against Clause 5.4.2, 5.4.3, Clearance, creepage distance as, when dropped as part of the testing procedure, the product casing broke and the live parts (230V) became accessible. Seven products were found to have inadequate labelling or instructions including missing voltage/current ratings.

<u>Risk Triage – Low</u>

The test failures identified with the smart speakers are relatively minor in nature and may lead to incorrect operation resulting in a nuisance to the consumer. However, the electromagnetic compatibility failures may be indicative of underlying quality control issues in production which may benefit from further investigation.

Table Lamps

Table lamps are regulated by the 'Electrical Equipment (Safety) Regulations 2016' (EESR). All products were tested against selected clauses from 'EN 60598-1:2015+A1:2018, Luminaires – Part one: General requirements and tests (IEC 60598-1:2014)' and 'BS EN 60598-2-4:2018, Luminaires – Part two: Particular requirements – Section four: Portable general purpose luminaires'.

Due to operational constraints, testing against the whole standard was not practicable and so the clauses listed below were selected for testing as failures against these clauses could pose the most serious safety implications to consumers. Products were also tested against the 'EESR' marking requirements.

Clauses tested against:

Clause three: Marking and instructions

Clause four: 4.3 Wireways', 4.10 Double and reinforce insulation, 4.11 Electrical connections and current carrying parts, 4.12 Screws and connections and glands, 4.13 Mechanical strength, 4.25 Mechanical hazards and tilt test & 4.7 Construction requirements in EN 60598-2-4.

Clause five: External and internal wiring

Clause seven: Provision for earthing

Clause eight: Protection against electric shock

Clause ten: Insulation resistance and electric strength, touch current and protective conductor current

Visual check on lamp holder, plug, cord, and cord switch (if any)

The observed compliance rate for table lamps is 46%. Of the 50 models tested 23 were found to be compliant. Of these 13 were purchased online and 10 were purchased from an offline store.

There were nine lamps which failed against 'Clause five, External and internal wiring' as the cross-sectional area of the supply cable was 0.50mm^2 with the minimum requirement being 0.75mm^2. One lamp failed against 'Clause five' and 'Clause 4.3, Wireways' due to a sharp edge on the cable entrance. The 20 products which failed on labelling, including the four which failed in other aspects, were split between three different labelling deficiencies including warnings and instructions.

Risk Triage – Low/Medium

Several common hazards were identified with several of the table lamps purchased in the research, suggesting a potential issue and a need for further work to understand these risks more precisely. Potential hazards include live wires becoming exposed over time and overheating potentially leading to a fire. An initial assessment of risk would indicate that the potential hazards would give rise to a low to medium risk outcome.

Annex 2

This Annex provides the data tables used for this research.

OPSS basket of goods

Table 1. Product categories selected for OPSS basket of goods and whether they were included in the ONS Basket or the OPSS Product Safety and Consumers research (OPSS research).

Product category	Included in ONS Basket	Included in OPSS research
Bluetooth Headphones	Yes	Yes
Children's Nightwear	Yes	Yes
Dolls	Yes	Yes
Children's scooters	Yes	Yes
Coin Batteries	No	No
Scatter Cushions	No	No
Hair Straighteners/tongs	Yes	No
Kettles	Yes	Yes
Liquid Foundation	Yes	Yes
Mobile Phone Chargers	Yes	Yes
Oven Gloves	No	No
Hair Colourant	Yes	Yes
Scented Candles	No	No
Smart Speakers	Yes	Yes
Table Lamps	Yes	Yes

Product sampling frame for in-store and online retailers

Table 2: Product sampling frame for in-store retailers

Product category	High Street	Discount Retailer or Outlet	Supermarket	Market Stall or Pop-up	Direct from Brand
Bluetooth Headphones	50%	17%	28%	4%	1%
Children's Nightwear	63%	7%	27%	1%	3%
Children's Scooters	(72%) 57%	(24%) 13%	(4%) 31%	0%	0%
Coin Batteries	52%	11%	32%	1%	5%
Dolls	58%	9%	28%	1%	4%
Hair Colourant	48%	5%	47%	0%	0%
Hair Straighteners/tongs	36%	4%	59%	0%	0%
Kettles *					
Liquid Foundation	75%	5%	20%	0%	1%
Mobile Phone Chargers	46%	21%	21%	3%	9%
Oven Gloves	52%	11%	32%	1%	5%
Scatter Cushions	44%	11%	45%	0%	0%
Scented Candles	52%	11%	32%	1%	5%
Smart Speakers	(76%) 44%	(0%) 23%	(8%) 16%	0%	17%
Table Lamps	65%	13%	3%	0%	20%

Notes:

* Kettle data is not available for in-store retailers due to a data indexing error.

The brackets indicate the percentage of products purchased from a given retailer type when the sampling frame could not be achieved. When sufficiently popular products could not be purchased from a certain retailer type, the outstanding quota was split evenly between remaining retailer types.

Table 3: Product sampling frame for online retailers.

Product category	High Street Retailer	Supermarket	Amazon	Third-Party Seller	Direct from Manufacturer	Online Only
Bluetooth Headphones	19%	1%	54%	13%	10%	1%
Children's Nightwear	37%	4%	15%	13%	20%	11%
Children's Scooters	19%	0%	(44%) 49%	16%	15%	2%
Coin Batteries	27%	5%	39%	13%	13%	5%
Dolls	24%	1%	49%	(12%) 17%	(12%) 6%	3%
Hair Colourant	(32%) 35%	23%	26%	10%	4%	1%
Hair Straighteners/tongs	32%	5%	41%	8%	8%	6%
Kettles	32%	5%	41%	8%	8%	6%
Liquid Foundation	(36%) 38%	8%	(16%) 18%	14%	15%	8%
Mobile Phone Chargers	8%	2%	58%	19%	12%	1%
Oven Gloves	27%	5%	39%	13%	12%	5%
Scatter Cushions	(36%) 40%	11%	24%	10%	11%	3%
Scented Candles	27%	5%	39%	13%	13%	5%
Smart Speakers	12%	1%	61%	8%	14%	4%
Table Lamps	(32%) 25%	3%	(36%) 32%	15%	(0%) 15%	10%

Notes:

The brackets indicate the percentage of products purchased from a given retailer type when the sampling frame could not be achieved. When sufficiently popular products could not be purchased from a certain retailer type, the outstanding quota was split evenly between remaining retailer types.

Guidance given to product selectors.

This section shows the guidance which was given to product selectors for each product category.

Table 4: Guidance given to product selectors.

Product category	Product description
Bluetooth Headphones	An electrical device with Bluetooth capability worn on the ear to receive radio or telephone communications or to listen music etc. In-ear, buds, or those worn over the head were all within scope.
Children's Nightwear	A child's nightdress, pyjamas, or dressing-gown. The Nightwear (Safety) Regulations 1985 (as amended) define a child as being under 13.
Children's Scooters	A child's vehicle with two or three small wheels joined to the bottom of a narrow board and a long vertical handle attached to the front wheel. Scooters powered by electricity, or a source other than the user, were out of scope. Micro scooters were in scope.
Coin/Button Batteries	Packs of coin/button batteries sold separately. Products which contain coin/button batteries are out of scope for this part of the project. Coin Battery: Small round battery where the overall height is less than the diameter and having an electrochemical system that contains lithium. Button Battery: As above but with an electrochemical system that does not contain lithium.
Dolls	A child's toy in the shape of a small person or baby. Dolls which can change colour or exhibit change through a chemical reaction were not in scope. Dolls powered by batteries were in scope.
Hair Straighteners/tongs	Hair Straightener: a device incorporating two narrow heated plates used for straightening a person's hair. Curling Tongs: a device incorporating a heated rod used for rolling a person's hair into curls.
Kettles	An electrical appliance that has a self-contained heating unit for heating water, and automatically switches off when the water reaches boiling point or at a pre-set temperature below 100 °C. Kettles with smart functionality were out of scope.

Mobile Phone Chargers	A device for recharging the battery of a mobile phone, especially one consisting of a cable connected to an adaptor which plugs into an electrical socket. Both adaptors with a charging cable connected and adaptors sold separately were in scope. Cables without an accompanying adaptor were not in scope.
Oven Gloves	A mitten that is made from a thick material and used for taking hot dishes out of an oven. Oven gloves made from traditional (common) fabrics and silicone are in scope.
Permanent Liquid Hair Colourant	A natural or synthetic substance used to change the colour of a person's hair.
Scatter Cushions	A small cushion designed to be placed randomly to create a casual effect and to be moved as required (maximum size = 60cm x 60cm). Cushions which do not include a filling were not in scope. Filling could be non-foam or, if foam, crumb foam only.
Scented Candles	A candle is an ignitable wick embedded in wax, or another flammable solid substance such as tallow, that provides light, with a natural or synthetic scented material blended into it.
Smart Speakers	An internet-enabled speaker that is controlled by spoken commands and is capable of streaming audio content, relaying information, and communicating with other devices. Products which solely act as a speaker and products with a screen which can also act as a speaker were considered within scope.
Table Lamps	A small lamp designed to stand on a table. Only lamps which could connect to the mains were in scope. Products with Bluetooth/smart functionality (e.g., could be controlled by voice or wirelessly through a phone) were not in scope. Lamps which could be controlled via touch were in scope.
Water-based Liquid Foundation	A liquid makeup applied to the face to create an even, uniform colour to the complexion, cover flaws and, sometimes, to change the natural skin tone.

Table 5. The categories of retailer type and the order used for product selection.

Retailer market	Retailer type	Order of product selection
Online	High Street Retailer	1
Online	Supermarket	2
Online	Amazon	3
Online	Third Party Seller	4
Online	Manufacturer	5
Online	Online Only Retailer	6
In-store	Directly from Brand	1
In-store	Supermarket	2
In-store	Discount Retailer or Outlet	3
In-store	High Street Retailer	4
In-store	Market Stall/Pop Up	5

Sampling and testing

Table 6 shows the sampling and testing for every product category. Table 7 shows the testing against regulations and standards for every product category.

Table 6: Number of products and testing samples required per product category.

Product category	No. of Products	Samples Needed for Testing	Total Samples
Bluetooth Headphones	50	3	150
Children's Nightwear	50	6	300
Dolls	50	4	200
Child's scooters	50	1	50
Coin/button Batteries	50	3	150
Scatter Cushions	50	4	200
Hair Straighteners/tongs	50	3	150
Kettles	50	3	150
Water-based Liquid Foundation	50	2	100
Mobile Phone Chargers	50	3	150
Oven Gloves	50	6	300
Permanent Liquid Hair Colourant	50	1	50
Scented Candles	50	3	150
Smart Speakers	50	3	150
Table Lamps	50	3	150
Total	**750**		**2400**

Table 7: Products tested against all applicable regulations and standards.

Product category	Tested against all applicable regulations?	Tested against all applicable clauses in standard?
Bluetooth Headphones	No	No
Children's Scooters	Yes	Yes
Children's Nightwear	Yes	Yes
Coin/Button Batteries	No	Partial
Dolls	Yes	Yes
Hair Straighteners/tongs	Yes	No
Kettles	Yes	No
Mobile Phone Chargers	Yes	No
Oven Gloves	Yes	No
Permanent Liquid Hair Colourant	Yes	Partial
Scatter Cushions	Yes	Yes
Scented Candles	Yes	Yes
Smart Speakers	No	No
Table Lamps	Yes	No
Water-based Liquid Foundation	Yes	Partial

Note:

Partial testing was where there was a focus on testing areas which posed the highest risk to consumers such as mechanical strength and electrical leakage. This was mainly due to full compliance testing not being possible within project timescales.

Regulations applied to each product

Table 8 shows the regulations applied for each product category.

Table 8: Regulations applied to each product category

Columns

A Product category
B Tested against all applicable regulations?
C Regulations tested against
D Tested against all applicable clauses in standard?
E High-level testing specification
F Detailed testing specification

A	B	C	D	E	F
Bluetooth Headphones	No	The Radio Equipment Regulations 2017	No	EN 55032:2015+ A11:2020 – In Full EN 55035:2017 – In Full EN 62368-1:2014 +AC:2015 – Partial Labelling requirements as per standard UKCA/CE Mark & operator address	EN 62368-1:2014 + AC:2015 Clause 10.6.5 Annex F EN 55032:2015+A11 Clause A.2, A.3 EN 55035:2017 Clause 4.2.1, Clause 4.2.2.2, Clause 4.2.2.3, Clause 4.2.3, Clause 4.2.4, Clause 4.2.5, Clause 4.2.6 Radio Equipment Regulation 2017 Regulation 10, 12(2)(b) or 23(1)(b)
Children's Nightwear	Yes	The Nightwear (Safety) Regulations 1985 (as amended)	Yes	BS 5722:1984 or BS EN 14878:2007 – In Full S.I. 2043 Schedule 2 Labelling – In Full	All

A	B	C	D	E	F
Dolls	Yes	Toys (Safety) Regulations 2011	Yes	BS EN 71-1:2014+A1:2018 – In Full BS EN 71-2: 2011+A1:2014 – In Full BS EN 71-3: 2019+A1:2021 – In Full BS EN 62115:2005+A12:2015 – In Full Labelling requirements as per standard UKCA/CE Mark & operator address	All
Children's Scooters	Yes	Toys (Safety) Regulations 2011	Yes	BS EN 71-1:2014+A1:2018 – Full Labelling requirements as per standard UKCA/CE Mark & operator address	All
Coin/Button Batteries	No	General Products Safety Regulations 2005	Yes	PAS 7055:2021 Button and coin batteries – Partial	PAS 7055:2021 Clause 4.1, Clause 4.2, 4.2.1, 4.4.2, 4.2.4, 4.2.4, 4.2.5
Scatter Cushions	Yes	Furniture and Furnishings (Fire Safety) Regulations 1988 (as amended)	Yes	BS 5852-2:1982 (Schedule 2 Pt 1) – In Full FFFSR 1998 Schedule 7 – Labelling	All
Hair Straighteners / Tongs	Yes	Electrical Equipment (Safety) Regulations 2016	No	EN 60335-2-23 – Partial Labelling requirements as per standard UKCA/CE Mark & operator address	EN 60335-1:2012+A11+A13 & EN 60335-2-23:2003+A11+A1+A2 (as applicable) Clause 7, Clause 8, Clause 13, Clause 21, Clause 22 (except 22.32, 22.46) Clause 25 (except 25.14 & 25.101) Visual check on plug and cord Electrical Equipment (Safety) Regulation 2016 Regulation 8, 18, 39

A	B	C	D	E	F
Kettles	Yes	Electrical Equipment (Safety) Regulations 2016	No	EN 60335-1:2012+A11+A13 – Partial EN 60335-2-15:2016+A11 – Partial Labelling requirements as per standard UKCA/CE Mark & operator address	EN 60335-1:2012+A11+A13 & EN 60335-2-15:2016+A11 Clause 7, Clause 8, Clause 13, Clause 21, Clause 22 (except 22.32, 22.46, 22.103), Clause 27 Visual check on plug and cord Electrical Equipment (Safety) Regulation 2016 Regulation 8, 18, 39
Water-based Liquid Foundation	Yes	Regulation 2009/1223 on Cosmetic Products as amended	No	Selected Chemicals Labelling requirements as per standard	Regulation 2009/1223 Determination of concentration of: • Annex V Entry 1 Sodium Benzoate • Annex V Entry 12 Parabens (methyl, ethyl, propyl, butyl) • Annex V Entry 29 Phenoxyethanol Article 19 – Labelling
Mobile Phone Chargers	Yes	Electrical Equipment (Safety) Regulations 2016	No	EN 62368-1:2014/AC:2015 Partial Labelling requirements as per standard UKCA/CE Mark & operator address	EN 62368-1:2020 Clause 5.3, Clause 5.4.2, Clause 5.4.3, Clause 5.4.9, Annex F, G.5.3, G.4.2 Visual check on plug and cord Electrical Equipment (Safety) Regulation 2016 Regulation 8, 18, 39
Oven Gloves	Yes	(EU) 2016/425 on Personal Protective Equipment	No	BS EN 407:2004 – Partial Labelling requirements as per standard UKCA/CE Mark & operator address	EN 407:2004 Clause 4.2, Clause 6.4, Clause 6.2, Clause 7 Regulation (EU) 2016/425 Article 8(2), Article 8(6)

A	B	C	D	E	F
Permanent Liquid Hair Colourant	Yes	Regulation 2009/1223 on Cosmetic Products as amended	No	Selected chemicals – Partial Labelling requirements as per standard	Regulation 2009/1223 Determination of concentration of: • Annex III Entry 8(b) – p-Phenylenediamine (PPD) • Annex III Entry 22 – Resorcinol • Annex III Entry 12 – Hydrogen Peroxide Article 19 – Labelling
Scented Candles	Yes	The General Product Safety Regulations 2005	Yes	BS EN 15493:2018 – In Full BS EN 15494:2019 – In Full Labelling requirements as per standard Presence of operator address	All
Smart Speakers	No	Radio Equipment Regulation 2017	No	EN 55032:2015+A11 – In Full EN 55035:2017 – In Full EN 62368-1:2014 +AC:2015 – Partial Labelling requirements as per standard UKCA/CE Mark & operator address	EN 55032:2015+A11 Clause A.2, A.3 EN 55035:2017 Clause 4.2.1, Clause 4.2.2.2, Clause 4.2.2.3, Clause 4.2.3, Clause 4.2.4, Clause 4.2.5, Clause 4.2.6 EN 62368-1:2014 +AC:2015 Clause 4, Clause 5.3, Clause 5.4.9, Clause 5.4.3, Clause 5.4.2, Annex F, Annex G.4.2 Radio Equipment Regulation 2017 Regulation 10, 12(2)(b) or 23(1)(b)

A	B	C	D	E	F
Table Lamps	Yes	Electrical Equipment (Safety) Regulations 2016	No	EN 60598-2-4 – Partial Labelling requirements as per standard UKCA/CE Mark & operator address	EN 60598-1:2015 & EN 60598-2-4:2018 Clause 3, Clause 4.25, Clause 4.3, Clause 4.7, Clause 4.10 - 13, Clause 5.2 -3, Clause 7, Clause 8, Clause 10 Visual check on lamp holder, plug, cord and cord switch Electrical Equipment (Safety) Regulation 2016 Regulation 8, 18, 39

Product compliance

Table 9 shows the level of compliance for every product category. The compliance is shown for both online and in-store products.

Table 9: Product compliance by product category

Product category	Number of products tested	Number of compliant products	Compliance rate (%)
Bluetooth Headphone	50	30	60%
Button batteries	50	0	0%
Child's scooter	50	18	36%
Colourants	50	18	36%
Doll	50	39	78%
Foundation	50	25	50%
Kettle	50	29	58%
Kids nightwear	50	42	84%
Mobile chargers	50	21	42%
Oven gloves	50	16	32%
Scatter cushion	50	41	82%
Scented candles	50	39	78%
Straightener	50	19	38%
Table lamp	50	23	46%
All	**700**	**360**	**51%**