



European  
Commission



# CASP2021

Coordinated Activities  
on the Safety of Products



Electric  
toys



Final  
Report

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## List of abbreviations

ABBREVIATION	DESCRIPTION
AEL	Accessible Emission Limit
CASP	Coordinated Activities on the Safety of Products
DG JUST	Directorate-General for Justice and Consumers of the European Commission
EEA	European Economic Area
EISMEA	European Innovation Council and SMEs Executive Agency
EN	European Standard
EO	Economic operator
EU	European Union
GPSD	General Product Safety Directive (2001/95/EC)
LED	Light-emitting diode
MS	Member State(s)
MSA	Market surveillance authority
PSA	Product-specific activity
RAG	Risk Assessment Guidelines
RAPEX Guidelines	Decision (EU) 2019/417
REACH Regulation	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC 1907/2006)
RoHS2	Restriction of Hazardous Substances Directive (2011/65/EU)
Safety Gate	Rapid alert system for dangerous non-food products
TSD	Toy Safety Directive (2009/48/EC)

# Executive summary

## Objectives of the activity

The Coordinated Activities on the Safety of Products (CASP) projects enable all the market surveillance authorities (MSAs) from European Union (EU)/European Economic Area (EEA) countries to cooperate in reinforcing the safety of products placed on the European Single Market. This activity focused on electric toys. The products were sampled and tested following commonly agreed criteria in a European laboratory selected by the participating MSAs.

## Product scope

1. electric toys with button cells/other cells;
2. electric ride-on toys;
3. electric toys with lasers/other lights;
4. remote-control toys.

## Main testing criteria

The following were included in the testing plan:

- a selection of clauses from European Standard (EN) 62115:2005 + A12:2015 – Electrical safety specifications for toys that have at least one function dependent on electricity, toys being any product designed or clearly intended, whether or not exclusively, for use in play by children of less than 14 years of age;
- clause 5.1 on small parts of EN 71-1:2014 + A1:2018 – Safety of toys – Mechanical and physical properties;
- the lead and cadmium content of products, tested using the Restriction of Hazardous Substances Directive (2011/65/EU) (RoHS2);
- the phthalates content of soft plastic, tested using the Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC 1907/2006) (REACH Regulation).

## Results

- 130 products tested:
  - 58 electric toys with button cells/other cells;
  - 34 electric ride-on toys;
  - 24 electric toys with lasers/other lights;
  - 14 remote-control toys.
- A total of 75% of the samples (97) met the requirements of the testing plan.
- A total of 25% of the samples (33) did not meet at least one of the requirements of the testing plan.
  - The product categories where the most samples did not meet at least one requirement of the testing plan were remote-control toys (36%) and electric toys with button cells/other cells (33%).

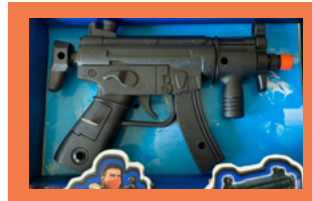
## Key recommendations

### For consumers

- Buy electric toys from trustworthy retail channels.
- Pay particular attention to the warnings and markings that accompany the products.
- Be aware of the dangers of easily accessible button batteries.

### For economic operators (EOs)

- Only place products on the market that meet all the legal requirements outlined in the Toy Safety Directive (2009/48/EC) (TSD), the relevant harmonised standard, the RoHS2 and the REACH Regulation.
- Pay attention to the completeness and accuracy of the warnings, markings, and instructions of electric toys.
- Clearly communicate with consumers about recalls.



## Conclusions

A total of 25% of the tested samples did not meet the relevant requirements.

A total of 43% of the samples tested for lead and cadmium using the RoHS2 did not meet the requirements. Further efforts are needed to protect EU consumers and the environment from unsafe electric toys placed on the Single Market.

Risk assessments performed by the MSAs showed that 21 samples presented a serious risk, 6 a high risk and 1 a medium risk.

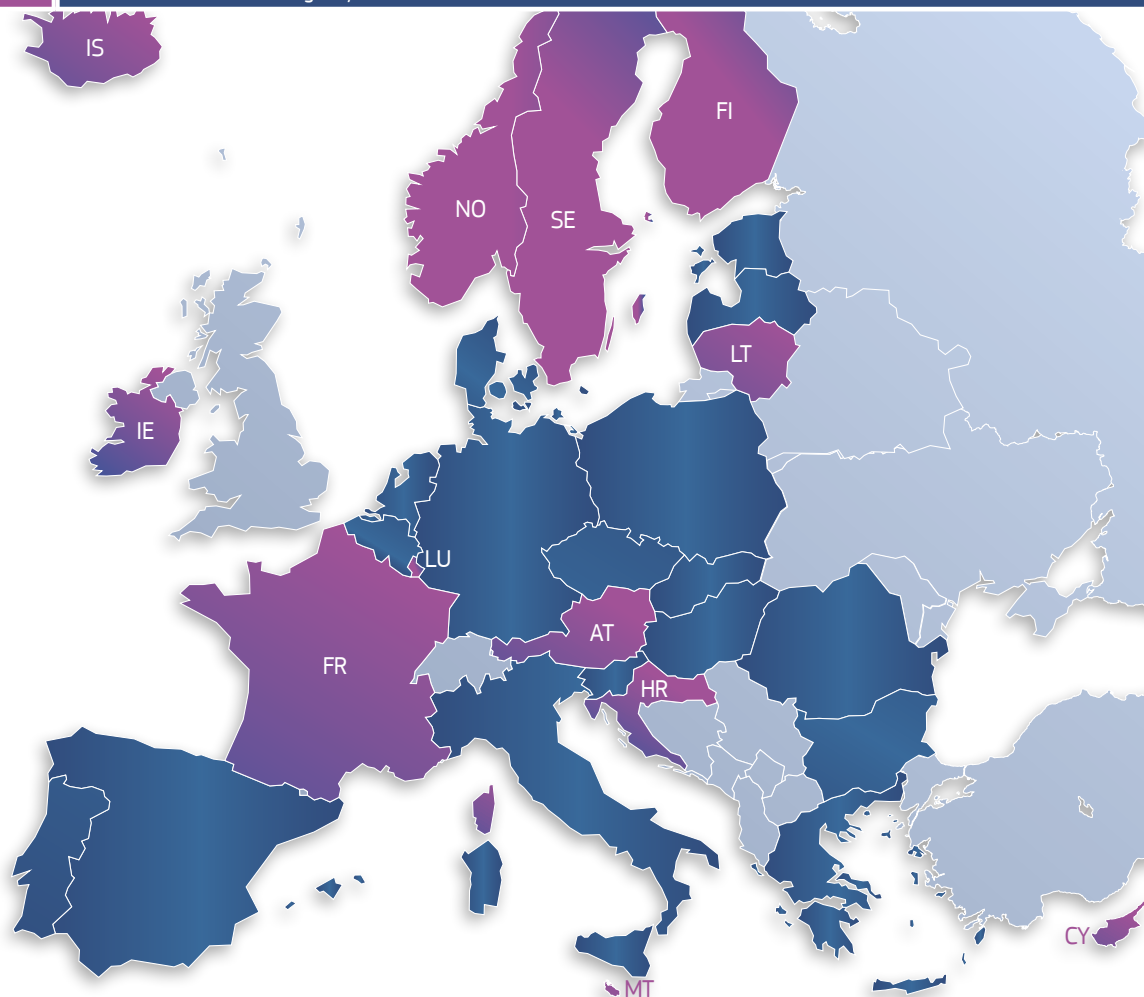
Among the main measures taken on the products that did not meet the requirements, 5 products were recalled from the market and 26 were withdrawn.

# 1. Overview of the activity

## 1.1 Participating MSAs

A total of 15 MSAs from 10 EU Member States (MS) and 2 EEA countries participated in the Electric toys product-specific activity (PSA), as illustrated in the image below.

COUNTRY	MSA
Austria	Federal Ministry of social affairs, health, care and consumer protection
	Austrian Agency for Health and Food Safety
Croatia	State Inspectorate
Cyprus	Consumer Protection Service
Finland	Finnish Safety and Chemicals Agency
France	Directorate-General for Consumer Competition and Fraud Enforcement
	Directorate-General of Customs and Indirect Taxes
Iceland	The Housing and Construction Authority
Ireland	Competition and Consumer Protection Commission
Lithuania	State Consumer Rights Protection Authority
Luxembourg	Market Surveillance Department
Malta	Malta Competition and Consumer Affairs Authority
Norway	Norwegian Directorate for civil protection
Sweden	Swedish National Electrical Safety Board
	The Swedish Chemicals Agency







# 1.2 Product scope and testing criteria

## 1.2.1 Product scope

The MSAs set the scope of the activity for toys that have at least one function dependent on electricity, toys being any product designed or clearly intended, whether or not exclusively, for use in play by children of less than 14 years of age.

Table 1 - Product scope

			
<b>ELECTRIC TOYS WITH BUTTON CELLS/ OTHER CELLS</b>	<b>ELECTRIC RIDE-ON TOYS</b>	<b>ELECTRIC TOYS WITH LASERS/OTHER LIGHTS</b>	<b>REMOTE-CONTROL TOYS</b>
Toy products that operate exclusively using replaceable battery technology.	Toys designed to be driven by a child and powered by rechargeable battery technology.	Toys that emit either a child-triggered or random light source (particularly a light source with a very narrow wavelength – electromagnetic radiation) to create a visual effect.	Electrical toys that are controlled remotely by a wire interface and contain rechargeable/non-rechargeable batteries.

## 1.2.2 Testing criteria

The testing plan included mechanical and electrical tests for all the collected samples (based on the requirements of EN 62115:2005 + A12:2015 and EN 71-1:2014 + A1:2018), chemical tests for lead and cadmium using the RoHS2 directive (for 63 samples of 6 MSAs that requested them) and chemical tests for phthalates content using the REACH Regulation (for 61 samples of 10 MSAs that requested them).

In addition to the laboratory tests, the MSAs also checked the accompanying warnings, markings and instructions in their national languages. A checklist with the main requirements was prepared by the technical expert to provide additional guidance to the MSAs.



## 2. Sampling and testing

### 2.1 Sampling distribution

The sampling was carried out on the basis of a pre-selection by each of the MSAs, in line with the peculiarities of each market.

Each MSA was initially invited to sample a total of 10 products. However, the total number of samples was eventually adjusted to accommodate the capacity and interest of each MSA. The MSAs chose how to distribute the total number of samples they assessed between the four product categories, and whether to sample products from all product categories or not.

A total number of 130 samples was collected and tested, as illustrated in the table below.

Table 2 - Number of samples collected by participating MSAs

COUNTRY	MSA	Electric toys with button cells / other cells	Electric ride-on toys	Electric toys with lasers or other lights	Remote-control toys	Total
Austria	Federal Ministry of social affairs, health, care and consumer protection	4	3	3	/	10
	Austrian Agency for Health and Food Safety					
Croatia	State Inspectorate	5	/	3	2	10
Cyprus	Consumer Protection Service	4	3	3	/	10
Finland	Finnish Safety and Chemicals Agency	5	4	4	/	13
France	Directorate-General for Consumer Competition and Fraud Enforcement	5	3	5	/	13
	Directorate-General of Customs and Indirect Taxes	/	/	1	/	1
Iceland	The Housing and Construction Authority	6	2	2	/	10
Ireland	Competition and Consumer Protection Commission	4	/	/	/	4
Lithuania	State Consumer Rights Protection Authority	5	1	/	4	10
Luxembourg	Market Surveillance Department	1	3	3	3	10
Malta	Malta Competition and Consumer Affairs Authority	3	4	/	5	12
Norway	Norwegian Directorate for civil protection	4	5	/	/	9
Sweden	Swedish National Electrical Safety Board	/	6	/	/	6
	The Swedish Chemicals Agency	12	/	/	/	12
<b>Total</b>		<b>58</b>	<b>34</b>	<b>24</b>	<b>14</b>	<b>130</b>

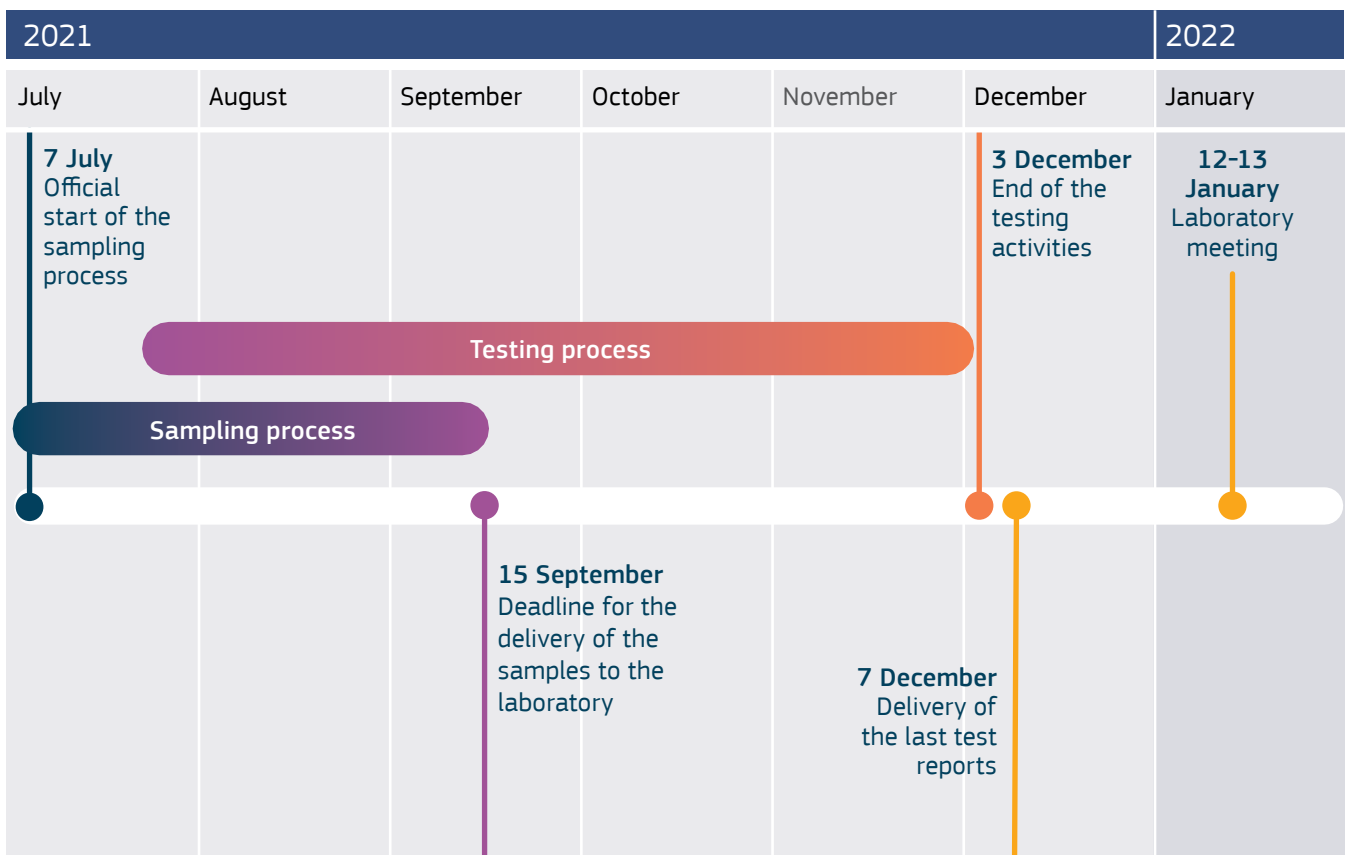
The MSAs chose their preferred sampling channels and collected the products both online and from physical shops. The majority of samples (72%) came from physical shops.

## 2.2 Testing process

Based on extensive desk research, 73 accredited laboratories located in the EU/EEA were identified. The project team prepared tender specifications and invited the laboratories to submit offers. The MSAs were presented with a comparative analysis of the technical suitability and the financial offers of the eight laboratories that answered the call and were accredited to perform the testing according to all of the selected standards. The MSAs selected the laboratory on the basis of the technical suitability and the price (following the best value for money principle).

The MSAs had 2 months to collect the samples and send them to the laboratory. The testing process encountered no delays and was completed on 3 December 2021. The laboratory meeting took place on 12 and 13 January (in a hybrid format<sup>1</sup>).

Figure 1 - Timeline of the sampling and testing process



<sup>1</sup> Members of the Contractor’s team were at the laboratory with the audiovisual team; the MSAs and the representatives from the Directorate-General for Justice and Consumers of the European Commission (DG JUST) joined the meeting via Zoom.

# 3. Test results

## 3.1 Overview of the test results and main findings

A total of 97 out of the 130 samples tested by the laboratory met the requirements defined in the final testing plan, as shown in the chart below. The remaining 33 samples did not meet at least one of the requirements<sup>2</sup>.

Figure 2  
Overall test results (N=130)

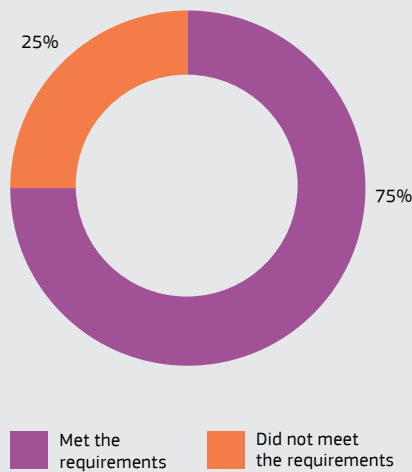
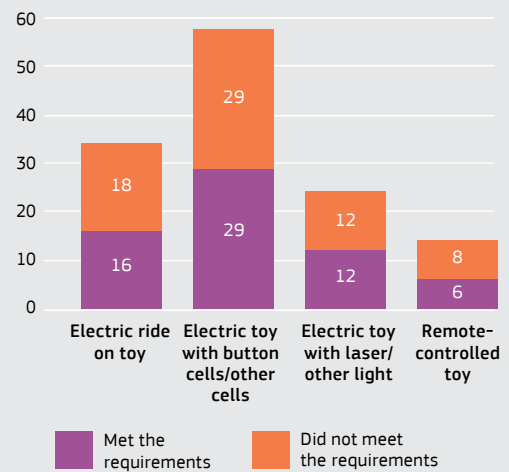


Figure 3  
Results of warnings, markings and instructions checks (N=130)



Based on the test results, toys for children above 36 months presented a slightly higher percentage of failures (26%) compared to toys for children below 36 months (20%).

The remote-control toys product category presented the largest number of samples that did not meet at least one of the relevant requirements (36%), followed by electric toys

with button cells / other cells (33%). Regarding the toys with button cells / other cells, the failure rate of samples intended for children above 36 months was higher (37%) compared to that of toys for children below 36 months (16%).

The MSAs performed checks on warnings, markings and instructions in their national languages: 52% of the samples did not meet the requirements.



<sup>2</sup> These results exclude the clauses on warnings, markings and instructions (these were assessed by the MSAs).



## 3.2 Results per type of test

The type of test with the largest number of samples that did not meet at least one of the requirements was the chemical tests for lead and cadmium using the RoHS2 (43%); followed by chemical tests for phthalates using the REACH Regulation (11%), and the electrical/mechanical tests (8%). The test results per clause are illustrated in the graphs below.

### Electrical/mechanical tests

Figure 4 - Test results per clause – EN 62115:2005 + A12:2015 (N=130)

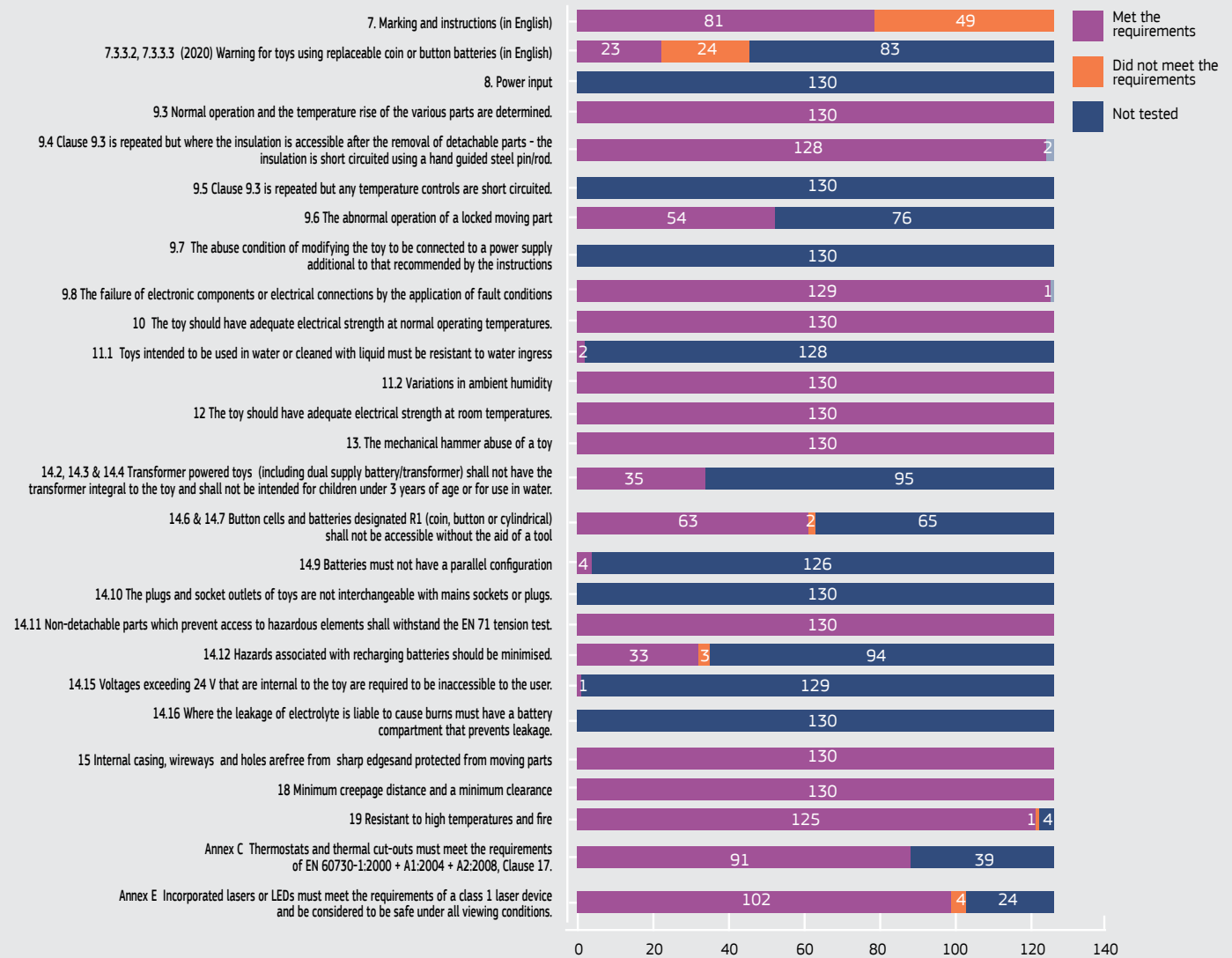
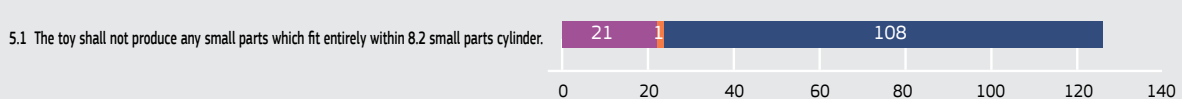
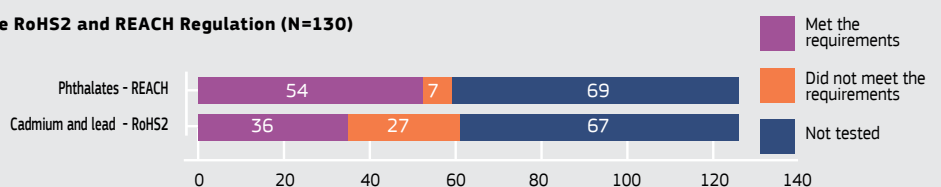


Figure 5 - Test results per clause – EN 71-1:2014 + A1:2018 on small parts (N=130)



### Chemical tests

Figure 6 - Results of chemical tests according to the RoHS2 and REACH Regulation (N=130)



### 3.3 Results per retail channel

The majority of samples (72%) came from physical shops. A considerably higher percentage of electric toys collected online did not meet at least one of the relevant requirements (47%) compared to the percentage of those collected in physical shops (17%).

### 3.4 Conclusions on the test results

Both mechanical/electrical and chemical risks were identified in the tested samples. However, the chemical non-compliance issues were much more frequent than the mechanical/electrical ones.

#### Chemical risks

It is concerning that 43% of the samples tested according to the RoHS2 did not meet the relevant requirements. The excessive presence of the hazardous substances of lead and cadmium poses an environmental risk when the electric toy product is recycled.

#### Mechanical/electrical risks

Although there were fewer non-compliance issues related to electrical and mechanical safety, some hazards were identified.

- **Easy access to button/coin cell batteries.** These small batteries are extremely hazardous to children because they may become trapped in a critical part of the child's anatomy. In particular, alkaline burns can cause a wide range of tissue injuries within minutes: mucosal erosion, ulcerations, and even deep burns to the gastric mucosa of the oesophagus and stomach.
- **Light-emitting diode (LED) lasers exceeding the permitted Accessible Emission Limit (AEL).** Incorporated lasers or LEDs must meet the safety requirements of a class 1 laser device and be optically safe under all viewing conditions. Children are particularly vulnerable to this form of light hazard.
- **Toys that can be used by the child while being plugged into the mains.** Playing with a toy while it is connected to the mains can increase the risk of damaging the plug and socket outlet and expose the child to further serious risks.

#### Packaging, warnings, markings and instructions

More than half of the samples (52%) did not meet the requirements on markings and instructions. The safety guidance is essential for the safe use and maintenance of electric toys. Many products were supplied with incomplete or inaccurate information, and some were sold with no warnings related to batteries.

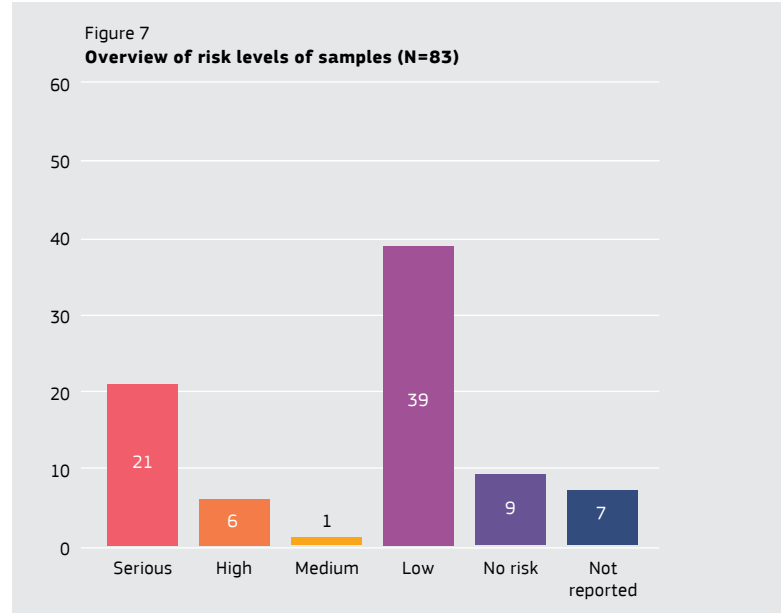


# 4. Risk assessment and measures

## 4.1 Risk assessment results

According to the TSD, toys placed on the Union market shall comply with the essential safety requirements set out in this directive. In particular, toys shall not jeopardise the safety or health of users of third parties when they are used as intended or in a foreseeable way. When assessing whether a product poses a risk, the approach must be based on the Commission Implementing Decision (EU) 2019/417<sup>3</sup> (the RAPEX Guidelines). To develop the risk assessments, the MSAs used the Risk Assessment Guidelines (RAG) tool<sup>4</sup> of the EC.

Figure 7 shows the risk levels (based on the risk assessments performed by the MSAs) of the samples that did not meet the requirements.

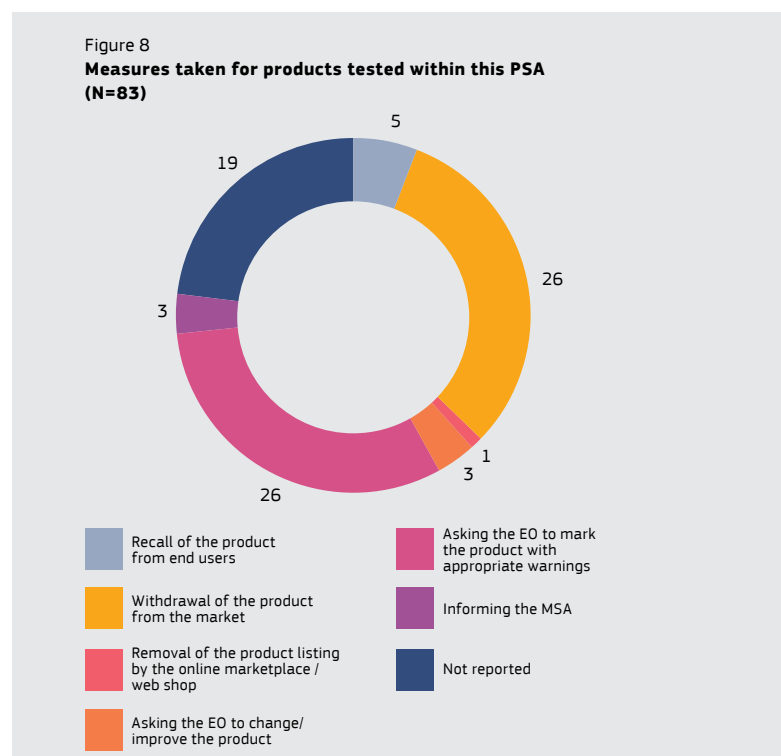


## 4.2 Corrective measures taken on tested products

Based on the test results and the risk assessments performed, the MSAs decide which corrective measure has to be taken regarding the products that do not comply with EU legislation and/or the applicable standards to stop dangerous products being placed on the Single Market. Figure 8 illustrates the main measures taken.

Furthermore, when a serious risk is identified, MSAs are obliged to submit a notification in Safety Gate (pursuant to Article 12.1 of the GPSD<sup>5</sup>). The RAPEX Guidelines<sup>6</sup> also recommend submitting notifications on measures taken against products posing a less than serious risk.

Following the actions triggered by the joint testing campaign, 22 products were subject to Safety Gate notifications and one additional notification is pending.



<sup>3</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32019D0417&from=EN>

<sup>4</sup> <https://ec.europa.eu/rag/#/screen/home>

<sup>5</sup> <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32001L0095>

<sup>6</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3A4390682>

# 5. Conclusions and recommendations

## 5.1 Conclusions

A total of 25% of the samples tested did not meet the requirements of the applicable standards. The remote-control toys and electric toys with button cells/other cells had a higher percentage of samples that did not meet at least one of the relevant requirements: 36% and 33%, respectively.

The results of the tests show that 43% of the collected samples of electric toys did not meet the requirements of the RoHS2 regarding lead and cadmium. Although the hazardous substances may not directly put the child at risk, they pose an environmental risk.

Furthermore, 52% of the samples did not meet the requirements on warnings, markings and instructions.

The MSAs issued 22 Safety Gate notifications based on the outcome of this PSA (1 notification is still pending) and requested the economic operators to withdraw or recall the product from the market when they were assessed as posing serious, high or medium risk.



## 5.2 Recommendations for stakeholders

The following recommendations are based on the outcome of the testing process and discussions among MSAs during the project.

### For consumers

#### **Buy electric toys from trustworthy retail channels.**

Buy your electric toys from established and well-known retailers. They will be there to help you deal with any problems related to your purchase. If you buy online, check the sellers' identity and the reviews of products the seller has already sold – do the reviews mention safety faults?

**Warnings, markings and instructions.** Pay particular attention to the warnings and markings that accompany the products. Is there a CE mark? Is an intended age range for the toy clearly marked? Is the toy marked with a contact name and address in the EU? Are there any warning instructions that should be followed? Does the toy require supervision? Can the electric toy be used outside or in wet conditions?

**Be aware of the dangers of easily accessible button batteries.** Be aware that many children's toys are powered by, or use, button batteries, which can cause severe and life-threatening injuries<sup>7</sup>. Take the time to regularly check the condition of your child's electric toy. Is it damaged? Can the child access the batteries?

### For European and national authorities

**Keep electric toys under surveillance.** Considering that 43% of the products sampled and tested in this activity did not meet the RoHS2 requirements and 52% did not meet the requirements on warnings, markings and instructions, electric toys should be kept under close surveillance. Additional tests, and regularly checking the warnings, markings and instructions, can reduce the amount of unsafe electric toys on the market.

**Focus market surveillance activities on electric toys sold online.** The dynamic and free-access online marketplace has seen an increase in opportunistic economic operators. A considerably higher percentage of the tested electric toys collected online did not meet at least one of the relevant requirements (47%) compared to the percentage of the ones collected in physical shops (17%).

### For EOs

**Warnings, markings, and instructions.** Pay particular attention to the warnings and markings that accompany the electric toys. These should be available in the national languages of the country of sale. Electric toys need to be marked with: the name and address of the manufacturer and importer – and the person responsible in the EU; information that ensures that the product can be identified and traced; and suitable warnings and safety information for the safe use of the toy.

**Be aware of your obligations under applicable legislation.** Take all necessary precautions to ensure that the products fully comply with the TSD. EN 62115 on the safety of electric toys, the RoHS2 and the REACH Regulation provide reliable technical solutions that manufacturers can follow during the design and production of a product to demonstrate their compliance with the mandatory legal requirements.

**Report incidents to the competent authority.** Where a toy presents a safety risk, economic operators have a legal duty to immediately inform the competent national authority of the Member State in which the toy has been made available.

**Recalls.** Clearly communicate with consumers on how they will receive information on possible recall actions. Make recall notices clear and accessible, and always indicate the hazards posed by the product. Regularly monitor the impact of a recall and adjust the strategy accordingly.

<sup>7</sup> For more information: [https://consultation.accc.gov.au/product-safety/further-consultation-button-batteries-in-toys-1/supporting\\_documents/Consultation%20paper%20for%20toys%20with%20button%20batteries.pdf](https://consultation.accc.gov.au/product-safety/further-consultation-button-batteries-in-toys-1/supporting_documents/Consultation%20paper%20for%20toys%20with%20button%20batteries.pdf)

# 1. What is CASP?

The Coordinated Activities on the Safety of Products (CASP) enable Market Surveillance Authorities (MSAs) from EU/EEA countries to cooperate and to reinforce the safety of products placed on the Single Market.

**Product-specific activities (PSAs)** test different types of products that may pose a risk to consumers. The products are selected and collected by the MSAs involved and are examined using a commonly agreed testing plan.

**Horizontal activities (HAs)** provide a forum for MSAs to exchange ideas and best practices. Under the guidance of a technical expert, they develop common approaches, procedures and practical tools for market surveillance.

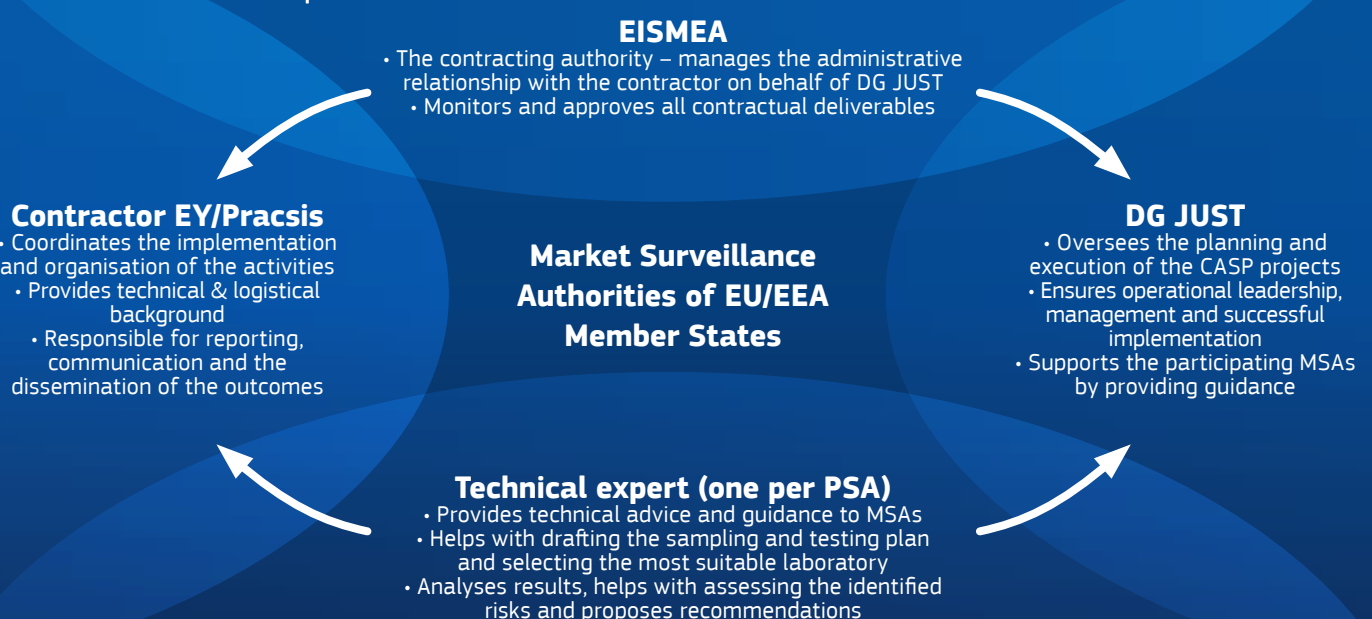
**Hybrid activities** facilitate horizontal discussions and conduct testing campaigns. The results are used to develop common approaches and methodologies.

**CASP 2021 includes five PSAs, three HAs and one hybrid activity. They were pre-selected by the participating MSAs through a consultation organised by DG JUST.**

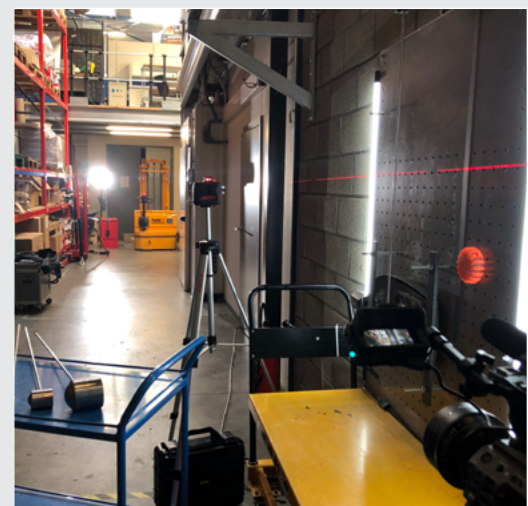
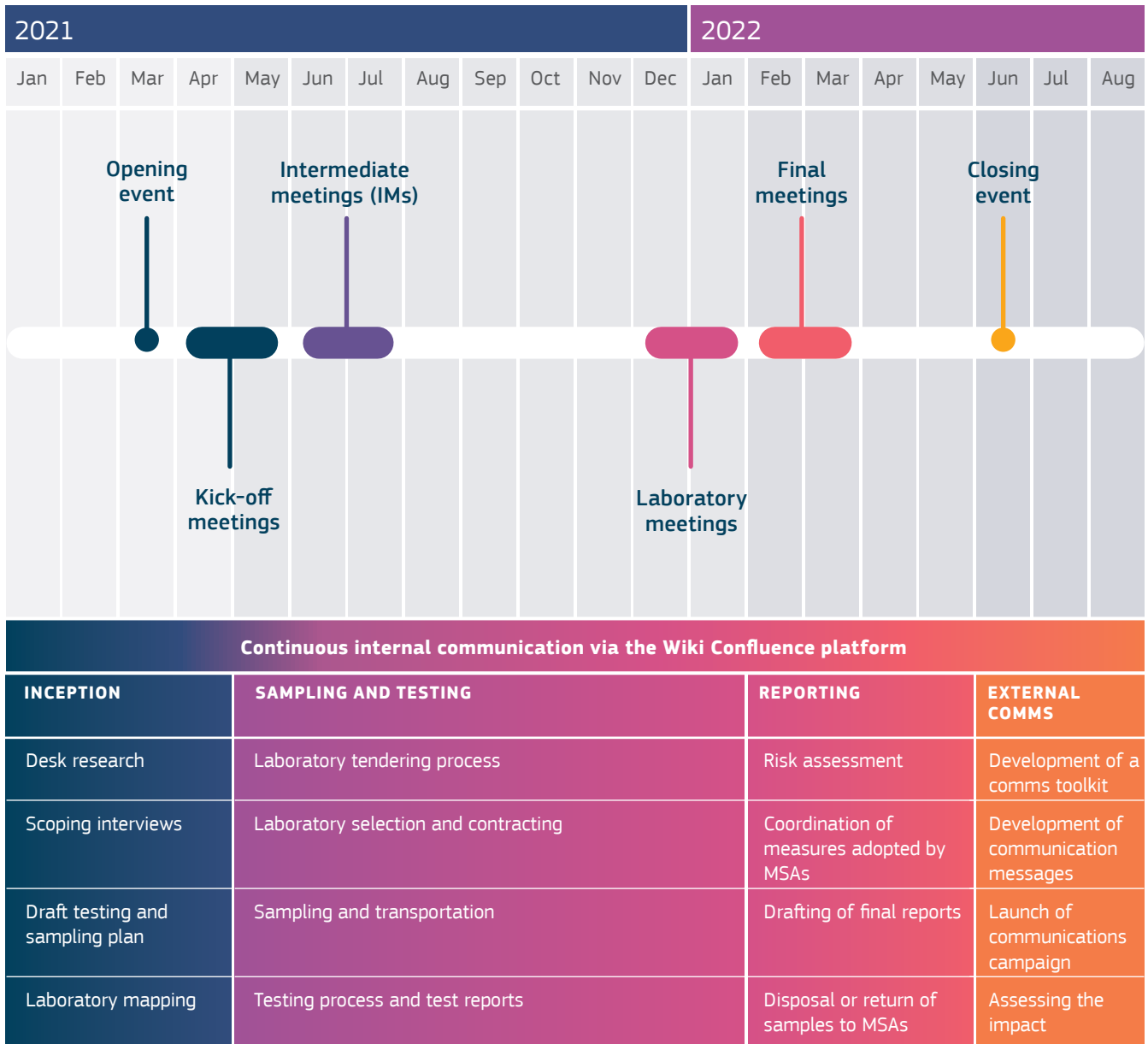
## Product-specific activities (PSAs)



## Roles and responsibilities



# 2. PSA work plan



# 3. PSA Tools & processes





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