



CASP 2024

Mini electric heaters

Final activity report

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List of abbreviations

CASP	Coordinated Activities on the Safety of Products
CTI	Comparative Tracking Index
DG JUST	Directorate-General for Justice and Consumers
EC	European Commission
EEA	European Economic Area
EFTA	European Free Trade Agreement
EN	European Standard
EU	European Union
IM	Intermediate meeting
MSA	Market surveillance authority
PSA	Product-specific activity
SAGA	Safety Gate Risk Assessment
WEEE	Waste from Electrical and Electronic Equipment

Executive summary

Objectives

The overarching goal of the Coordinated Activity on the Safety of Products (CASP) project is to protect the health and safety of European consumers by supporting national authorities from EU/EFTA countries responsible

for market surveillance (MSAs) to better coordinate their activities. MSAs participate in joint sampling, testing and risk assessment of specific products during CASP.

Product scope

The activity covered mini electric heaters with a width and height not exceeding 40 cm and 30 cm respectively.

It included portable fan heaters, radiant heaters, plug-in heaters, and ceramic heaters.

Main testing criteria and results

The activity focused on testing mini electric heaters against the standard **EN 60335-2-30:2009 + A13:2022**

(including amendment **A2:2022**), dealing with the safety of electric room heaters for household purposes.

A total of 43 samples (54 %) did not meet at least one of the requirements of the testing plan. Examination of the labelling – warnings, markings and instructions – performed by the MSAs showed that 27 (34 %) did not meet the requirements. Overall, 50 samples (62 %) out of 80 did not meet at least one requirement.

Conclusions

This activity highlighted the importance of proper labelling to reduce the risk of electric shock and fire as the popularity of these products grows. In response, MSAs

imposed sanctions on economic operators and instructed them to improve or withdraw non-compliant products¹.

Key recommendations to stakeholders

For consumers

- ▶ Don't buy a product that has no instructions and no contact details within the EU;
- ▶ Keep your electric heater away from children, water and wet clothing;
- ▶ Do not block the ventilation grills, do not touch the heating element, do not use travel adaptors to plug in the product, do not leave it switched on while sleeping;
- ▶ Do not use the product if it is broken and do not attempt to fix it yourself.

For economic operators

- ▶ It is a legal requirement to provide all product information, including instructions and warnings for consumers, in the language of the country of sale;
- ▶ If you are selling a product in a specific country, check the type of plugs that are used in that country.

For standardisation organisations

- ▶ Ensure that the standard covers correctly plug-in mini heaters;
- ▶ The standard needs to provide requirements about the size, readability, placement, colouring and contrast of warnings on the packaging and product.

¹ Until 02.04.2025 (included).



Part I

Overview of the activity

Participating MSAs


		Country	MSA
1		Croatia	State Inspectorate
2		Cyprus	Department of Electrical and Mechanical Services, Ministry of Transport, Communications and Works ²
3		Estonia	Consumer Protection and Technical Regulatory Authority
4		Germany	District Government of Düsseldorf
			Competence Centre Market Surveillance - Trade Supervisory Authority - Government of Upper Bavaria
5		Ireland	Competition and Consumer Protection Commission
6		Latvia	Consumer Rights Protection Centre
7		Lithuania	State Consumer Rights Protection Authority
8		Luxembourg	ILNAS - Market Surveillance Department
9		Malta	Malta Competition and Consumer Affairs Authority
10		Sweden	Swedish National Electrical Safety Board
11		Italy	Chamber of Commerce of Milan Monza Brianza Lodi
			Chamber of Commerce of Torino

Product scope

Mini electric heaters provide a compact and efficient heating solution for indoor spaces. These portable units are designed for easy operation, allowing users to simply plug them in and enjoy immediate warmth.

² MSAs can participate in the CASP project in the testing-only modality. They participate in the testing process, but are not involved in the discussions and decision-making and do not take part in the activity meetings.

Table 1: Product scope description

	Product sub-category	Photo	Description
In scope	Fan heater		A fan heater uses an electric element to generate heat and a fan to blow the warm air into the room. It is compact, portable and provides quick heating.
	Radiant heater		A radiant heater emits infra-red radiation to directly warm objects and people in its path, rather than heating the air. It provides instant heat, making it suitable for spot heating.
	Plug-in heater		A plug-in heater is a small, portable electric heater that plugs directly into a wall outlet. It is convenient for personal use in small areas, such as bedrooms and offers quick and localised heating.
	Ceramic heater		A ceramic heater uses a ceramic heating element to produce heat, which is then distributed by a fan.
Out of scope	All electric heaters above 40 cm in height and 30 cm in width		E.g., baseboard heaters (see picture on the left), panel heaters, central heating systems. Plugs, fuses and adaptors supplied with the products were out of the testing scope of CASP2024.

Testing criteria

Mini electric heaters were tested against the standard EN 60335-2-30:2009, on the safety of electric room heaters for household purposes. The final testing plan of the activity is described in Table 3.

Table 2: Final testing plan for mini electric heaters

Standards EN 60335-2-30:2009 + A13:2022 (including amendment A2:2022)		
Clause	Requirements	Comments
7	Markings and instructions	Also note if CE mark and WEEE logo are present. Both are required, but investigation of WEEE Directive compliance was outside CASP 2024 scope. Must use official language of country of sale and must identify manufacturer or distributor established within EEA.
8	Protection against access to live parts	
10	Power input and current	
11	Heating	
13	Leakage current and electric strength at operating temperature	
15	Moisture resistance	
19	Abnormal operation	Simple, low-cost products were sampled. No Annexe R requirements were tested. The product needs to be safe, both when it is functioning normally and when it operates with a fault.
20	Stability and mechanical hazards	Heaters may easily fall over, which is a serious issue.
21	Mechanical strength	
22	Construction	
23	Internal wiring	
25	Supply connection and external flexible cords	
27	Provision for earthing	
29	Clearances, creepage distances and solid insulation	No tracking tests (Annexe N) were carried out for testing to this PSA. If material CTI was unknown, the creepage distances measured were simply reported.
30	Resistance to heat and fire	Note any non-compliances from visual inspection and a dimensional check (using the gauges and based on the standard sheets). Plug/Fuse/Adaptor testing outside CASP 2024 scope.

Sampling and testing

Sampling distribution

The sampling process was carried out by the MSAs based on the sampling distribution agreed in the intermediate meeting. A total of 80 products were collected by the participating MSAs for testing, both online and from physical stores.

Due to the timing of the sampling process, in summer, several MSAs faced challenges in collecting samples. If sampling had occurred during winter, the results might have been different. The seasonal nature of the products' availability on the market likely had an influence on the test outcomes.

Testing process

The testing laboratory for this activity was selected through a tender procedure, launched in March 2024. The tender specifications were sent to 149 laboratories in the EU/EFTA that had been identified by the project team's laboratory engagement strategy. Each laboratory was asked to submit an offer including detailed information on pricing, proof of certification, the relevant experience of the experts and test report templates.

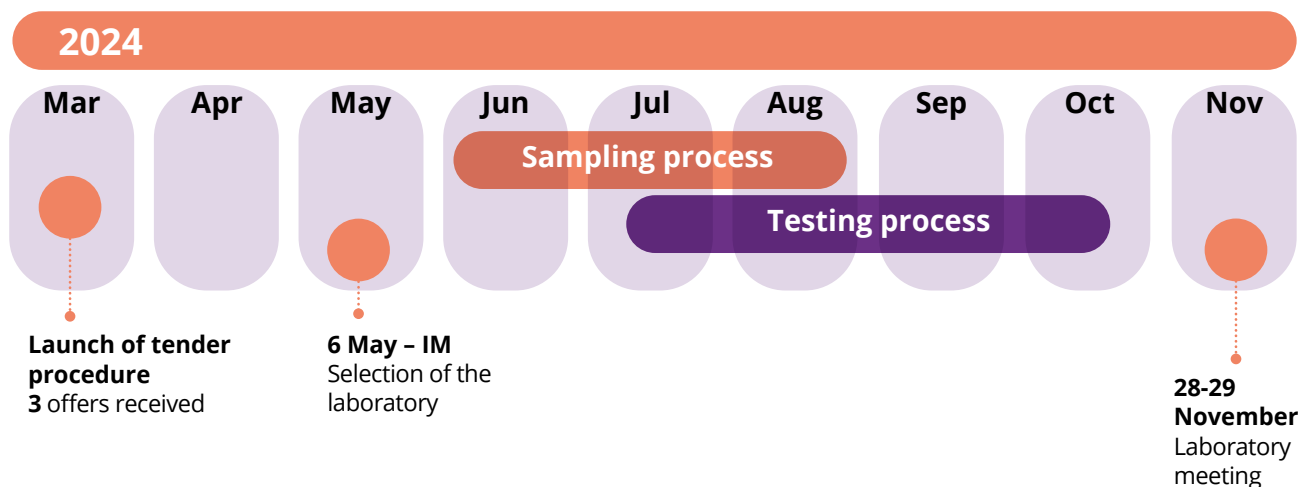
Ten laboratories submitted offers within the timeframe. Based on the completeness and competitiveness of the offers, three laboratories were pre-selected and invited to an interview.

However, one of the three laboratories withdrew their offer as it could no longer guarantee sufficient testing capacity for this project.

During the intermediate meeting, the MSAs were presented with comparative analyses of the technical quality and financial aspects of the laboratories' offers. The MSAs selected the laboratory that was awarded the highest number of points for technical quality and financial competitiveness.

Following the selection of the laboratory, the MSAs were given two months to collect the samples and send them to the laboratory.

Figure 1: Timeline of the sampling and testing process



Test results

Overview of the test results and main findings

Out of 80 samples tested, 43 products (54 %) did not meet at least one of the requirements of the testing plan, as illustrated in the following graph.

If we include the outcome of the checks on warnings, markings and instructions performed by the MSAs with the tests performed by the laboratory, 50 samples (62 %) did not meet at least one requirement.

Figure 2: Test results excluding checks on warnings, markings and instructions (N=80)

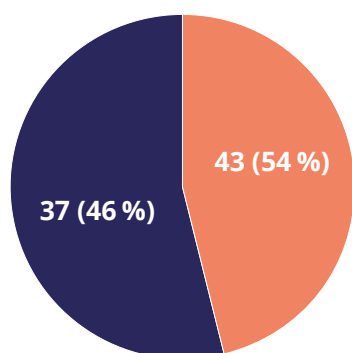
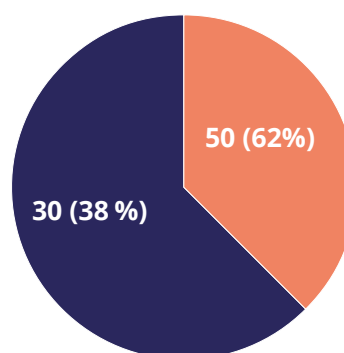


Figure 3: Test results including checks on warnings, markings and instructions (N=80)



Did not meet the requirements Met the requirements

When considering only the warnings, markings and instructions, MSAs found that 27 samples (34 %) out of 80 did not meet these requirements. All 27 of these samples also did not meet the requirements of the testing plan. The main reasons for non-compliance were:

- ▶ information not provided in the official language of the country of sale (15 samples);

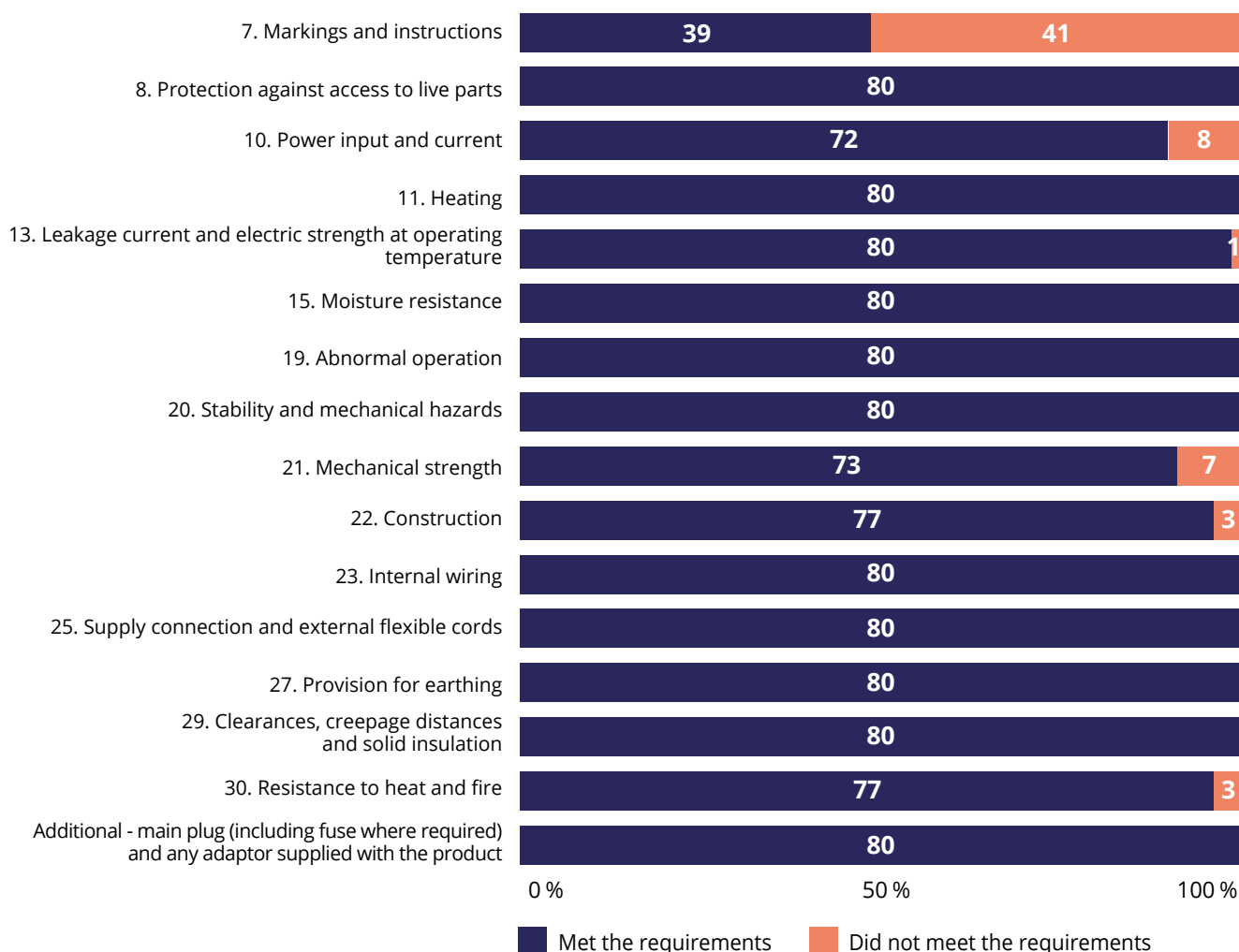
- ▶ missing warnings to keep three-year-old children away from the heater (7 samples);
- ▶ missing identifiers for the manufacturer inside or outside the EU/EEA (5 samples).

Results per test clause

Looking at the results for standard **EN 60335-2-30:2009 + A13:2022 (including amendment A2:2022)**, clauses which produced a significant number of failures were Clause 7: Markings and instructions and, to a lesser extent, Power input and current (Clause 10), as well as Mechanical strength (Clause 21).

As per the figure above, 3 samples failed the construction test (Clause 22), and 3 failed the test for heat and fire resistance (Clause 30). The laboratory also tested Clause 25 on the mains cable of the products, as the experts had highlighted that manufacturers often try to reduce costs on cables.

Figure 4: Test results per clause



Conclusions of the test results

In recent years, the market has seen an influx of small, low-cost heaters, likely driven by rising energy costs. Despite their affordability, the incidence of failures related to construction quality has remained relatively low, suggesting a consistent level of product quality.

The main issue found relates to **markings and instructions**. Problems include missing markings, inadequate instructions, or the use of languages that are not suitable for the country of sale. Heaters can pose safety risks if misused, such as being placed near flammable materials. This makes it crucial for consumers to receive comprehensive safety information.

This activity showed **discrepancies in power consumption**. Some heaters exhibited power consumption levels that significantly deviated from the rated (marked) values. Generally, these discrepancies did not present safety risks but were related to performance issues.

Moreover, some products showed **inadequate mechanical strength**; if the casing of a heater is prone to breaking easily, it may expose live parts, posing a risk of electric shock. In the case of fan heaters, this could also expose hazardous moving parts, such as fan blades.

Risk assessment and corrective measures

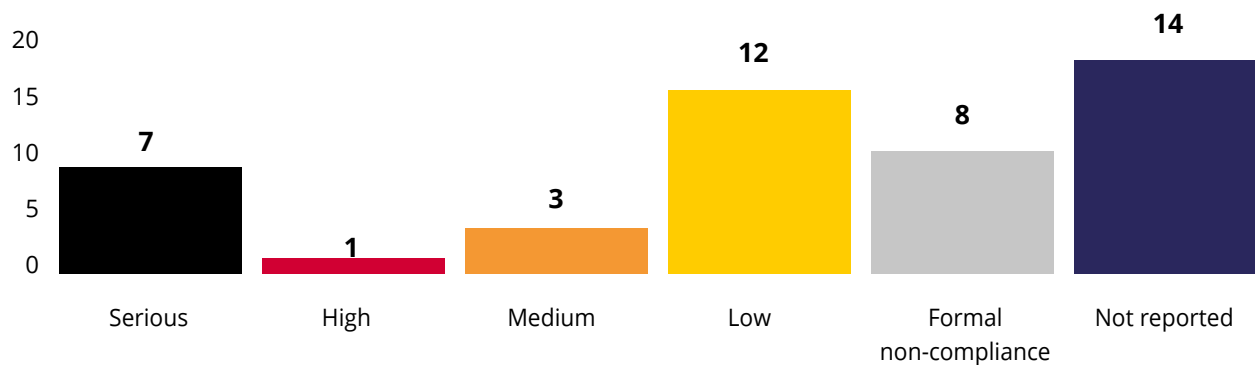
Risk assessment results

Mini electric heaters can only be placed on the market if they comply with the safety requirements of the General Product Safety Regulation (GPSR)³. When assessing whether a product poses a risk, the principles laid down in the Commission implementing decision (EU) 2019/417 laying down guidelines for the management of the European Union Rapid Information System (Safety Gate Guidelines)⁴ should be respected.

Overall, 50 (62 %) samples did not meet the requirements. A total of 43 samples (54 %) did not meet the requirements of the tests performed by the laboratory and 27 (34 %) did not meet the labelling requirements for warnings, markings and instructions.

Seven samples were assessed as posing a serious risk, one high risk, three medium risk and 12 a low risk. Figure 5 shows the risks levels of the samples that did not meet the requirements⁵.

Figure 5: Risk level of samples that did not meet the requirements



Corrective measures

Based on the results and the risk assessments performed, the MSAs determine the corrective measures for products that do not comply with EU legislation and/or the applicable standards.

Figure 6 displays the corrective measures taken in relation to the products that did not meet the testing requirements.

³ Regulation (EU) 2019/1020 of the European Parliament and of the Council of 20 June 2019 on market surveillance and compliance of products.

⁴ Commission Implementing Decision (EU) 2019/417 of 8 November 2018 laying down guidelines for the management of the European Union Rapid Information System 'RAPEX' established under Article 12 of Directive 2001/95/EC on general product safety and its notification system (notified under document C(2018) 7334).

⁵ Products that met the testing requirement, but did not meet the labelling requirements are reported under the label 'formal non-compliance'.

Figure 6: Measures taken for products that did not meet the requirements (N=33)⁶



Additionally, when a serious risk is identified, MSAs are legally required to submit a notification on the Safety Gate Rapid Alert System, in accordance with Article 26 of the GPSR⁷.

On the basis of the GPSR and Regulation (EU) 2019/1020⁸, it is recommended to submit notifications for measures taken against products posing a less-than-serious risk.

Conclusions and recommendations

Conclusions

The activity assessed the safety of mini electric heaters, revealing that 54 % of the samples failed to meet at least one of the testing requirements. As the use of these devices is growing, due to their ease of use and cost-saving benefits, warnings, markings and instructions become essential. They provide users with critical information about the correct use of the product, helping to reduce the risks of electric shocks and fire.

In response, MSAs instructed the economic operators to modify or improve the products that did not meet the relevant requirements, withdraw them from the market and ensure they are marked with appropriate warnings. Additionally, sanctions were imposed on some economic operators.

⁶ Until 02.04.2025 (included).

⁷ Regulation (EU) 2023/988 of the European Parliament and of the Council of 10 May 2023 on general product safety.

⁸ Regulation (EU) 2019/1020 of the European Parliament and of the Council of 20 June 2019 on market surveillance and compliance of products.

Recommendations to stakeholders

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

For consumers

Before buying the product:

- ▶ Do not buy a product that has no instructions, or for which the instructions are not in your language. If you buy a product online and realise that there are no instructions, return it and inform the consumer protection authorities;
- ▶ Only trust products that have the contact details of the manufacturer or importer based in the EU.

During use of the product:

- ▶ Keep your electric heater away from children, water and wet clothing;
- ▶ Do not block the ventilation grills of the mini electric heaters with an object;
- ▶ Do not touch the heating element;
- ▶ Do not use the mini electric heater if the product is broken and has visible damage;
- ▶ If the mini electric heater breaks, do not attempt to fix it yourself;
- ▶ Do not use plug-in mini electric heaters with travel adaptors;
- ▶ Do not leave the mini electric heater switched on while you are sleeping;
- ▶ Check on [Safety Gate](#) to see if the product you're buying has been identified as dangerous;
- ▶ Report any safety issues or accidents with your product to your consumer protection authority on [Consumer Safety Gateway](#).

For economic operators

- ▶ Label the heater with all the required warnings, markings (including CE marking) and instructions, in accordance with the standard;
- ▶ It is a legal requirement to provide all product information, including instructions and warnings for consumers. It must be in the language of the country where the product is sold;
- ▶ If you are selling a product in a specific country, check the type of plugs that are used in that country. The plugs are not the same across the EU/EFTA.
- ▶ Report any safety issues or accidents you are aware of to the relevant authorities via the [Safety Business Gateway](#).

For standardisation organisations

- ▶ Ensure that the standard correctly covers plug-in mini heaters. For instance:
 - The placement of the heater in relation to the socket is unclear. Plug-in heaters are 'portable appliances' within the meaning of the standard. Instead of a power cord, they have integrated plug pins. The warning about 'not placing below a socket-outlet' is confusing/meaningless for this product type and should be addressed;
 - It is unclear if impact hammer tests should be performed with the heater plugged in. It would seem sensible to evaluate this condition, since any breakage in such a position could expose live parts. The standard should clarify under which conditions the hammer tests should be performed.
- ▶ The standard needs to provide requirements about the size, readability, placement, colouring and contrast of warnings on the packaging and the product. Clause 7.14 of EN 60335-1 sets out minimum sizes for markings and includes a requirement that 'Unless contrasting colours are used, moulded in, engraved or stamped, markings shall be either raised above or have a depth below the surface of at least 0.25 mm'. However, it was felt that allowing important safety warnings with no contrast between text and background, and simply relying on a shadowing effect, does not achieve sufficient clarity. For small products, the minimum permitted text size is also very small.



Part II

What is CASP?

The Coordinated Activities on the Safety of Products (CASP) project enables close cooperation between market surveillance authorities from European Union/

European Free Trade Agreement countries to ensure the safety of products on the Single Market.

CASP 2024 includes seven product-specific testing activities and two horizontal activities

Participants in the product-specific activities test the jointly selected products sampled on their respective national markets. The products are tested in accredited laboratories in the EU/EFTA according to the commonly agreed testing criteria.

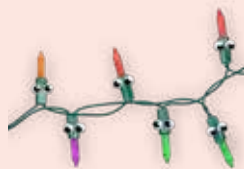
CASP 2024 also includes one re-testing activity. Based on the same testing plan as in the previous testing campaign of the given product category, the re-testing initiative involves repeating large-scale market surveillance activities for those product categories to verify the compliance level after a certain period of time.



PSA 1
Baby soothers



PSA 2
High chairs



PSA 3
Lighting chains



PSA 4
Mini electric heaters



PSA 5
Disposable electronic
cigarettes



PSA 6
Bicycles for children



PSA 7
Slime toys (re-testing)

Horizontal activities provide a knowledge-exchange forum for market surveillance authorities. With the guidance of technical experts in the relevant fields, the participants develop common approaches, procedures, and practical tools for market surveillance.

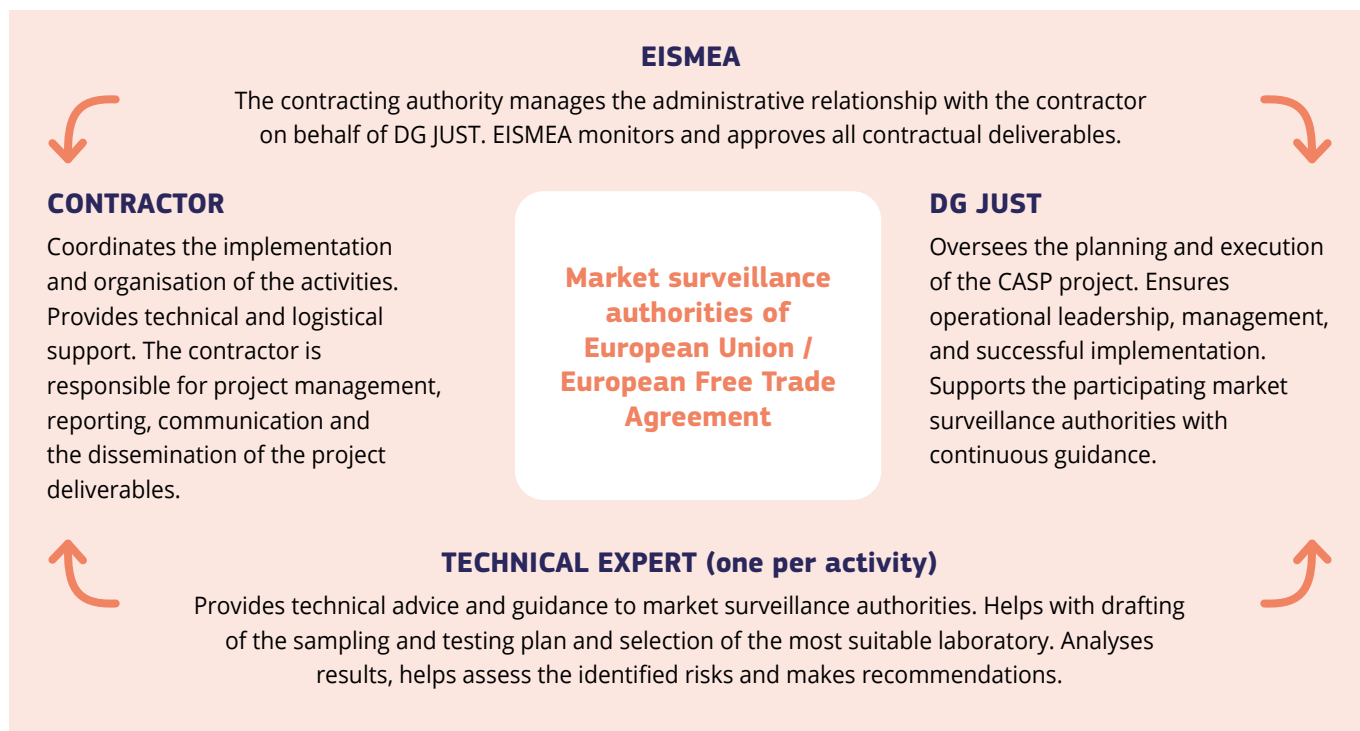


HA 1
Standardisation – use of
standards by analogy

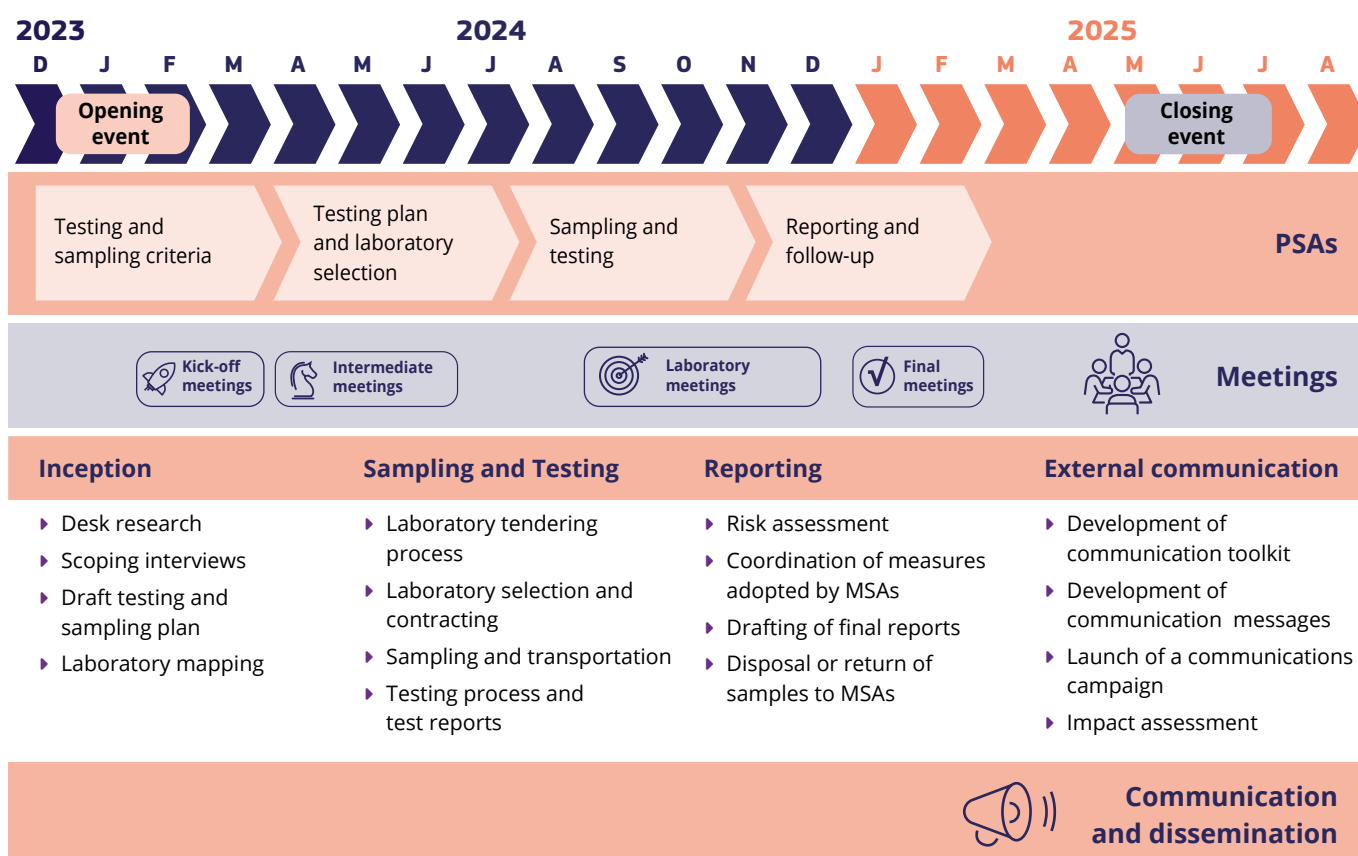


HA 2
Starter kit for
newcomers

Roles and responsibilities



Product-specific activities work plan



Product-specific activities processes and tools

<p>0 Pre-CASP process</p> <p>DG JUST conducts a priority-setting exercise with market surveillance authorities to select the product categories for each CASP project. This selection process encompasses both new and previously tested product categories in the framework of a CASP project.</p>	<p>1 Validation of testing and sampling plans</p> <p>The technical experts draft the testing plans based on the priorities set by market surveillance authorities and the main product hazards identified. The drafts are presented at the kick-off meetings, then finetuned and validated by the participants.</p>	<p>2 Laboratory selection</p> <p>The contractor's team maps the testing laboratories and contacts them to collect preliminary fee quotes and other relevant information. The tendering process is launched after the kick-off meetings, and the offers are compared and evaluated. During the intermediate meetings, the market surveillance authorities select one laboratory per activity.</p>
<p>3 Collection and transportation of samples</p> <p>The market surveillance authorities collect samples from their national markets, perform preliminary checks and send them to the selected testing laboratory.</p>	<p>4 Testing and delivery of test reports</p> <p>The laboratory tests the samples according to the agreed testing plan. The market surveillance authorities check and validate the test reports.</p>	<p>5 Risk assessment</p> <p>The technical expert and the market surveillance authorities perform risk assessments on all samples that do not meet the testing requirements.</p>
<p>6 Measures adopted by the market surveillance authorities</p> <p>The market surveillance authorities take corrective measures for the products that do not meet the requirements and issue notifications on Safety Gate.</p>		<p>7 External communications</p> <p>The external communication campaign will launch when all testing results have been validated. It is rolled out via media and influencer engagement activities, supported through stakeholder dissemination activities.</p>

External communication

Communication tools

- ▶ **Final reports** for each activity and for the CASP 2024 project;
- ▶ **Factsheets;**
- ▶ **#ProductGo game and related assets;**
- ▶ **Press kit and social media assets.**

Channels

The communication material is disseminated via:

- ▶ ec.europa.eu web presence ([Safety Gate](#), [CASP](#) webpage, [EISMEA news](#) section);
- ▶ Social media accounts of DG JUST and EISMEA;
- ▶ Communication channels of market surveillance authorities;
- ▶ Selected partner influencers;
- ▶ Selected media partnerships.

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