

# UBIQUITOUS BUT PREVENTABLE: HARMFUL CHEMICALS IN EVERYDAY CONSUMER PRODUCTS

Compilation of tests by consumer organisations  
between 2017 and 2023 underscores need for  
better EU chemicals legislation



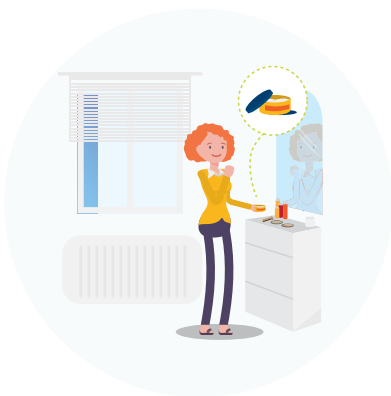
# WHY THIS REPORT

Consumers are exposed to a multitude of chemicals in the products they use every day. Scientists have linked chemical exposures to a wide range of health effects, including reproductive disorders, developmental issues, and cancer. Consumers unwittingly come into contact with potentially harmful substances on a regular basis. At the same time, four out of five consumers<sup>1</sup> express concerns about the presence of chemicals in the products they purchase.

While awareness of this issue is growing, the current regulation of chemicals in the European Union falls short of providing adequate protection for consumers<sup>2</sup>. Existing regulations often lack the necessary scope and depth to address the full spectrum of potential risks associated with these chemicals. This regulatory gap leaves consumers vulnerable to chemical exposures and undermines their trust in the safety of products on the market. It is clear that more comprehensive and robust measures are needed to safeguard public health.

Recognising the potential health risks resulting from exposure to chemicals, the European Commission promised significant improvements in the protection of consumers from hazardous chemicals in its 2020 'Chemicals Strategy for Sustainability'. The Strategy outlines a commitment to enacting legal reforms and strengthening enforcement to ensure better protection for consumers. It aims to establish a system that proactively identifies and restricts the use of harmful substances in products, thereby minimising the risks to consumer health and the environment. At the time of writing, only parts of the strategy have been turned into concrete proposals – and the current European Commission will soon no longer be able to propose new legislation before its mandate expires in 2024.

To illustrate the need for action, this report compiles findings from product tests by BEUC's members, national European consumer organisations, between 2017 and 2023. The results highlight the ubiquitous presence of chemicals of concern in consumer products, underlining the urgent need for stronger regulations and industry accountability. The findings however also reveal that some products do not contain problematic substances, demonstrating that it is indeed possible for industry to use alternatives. This underscores the potential for positive change and the importance of swift action to protect consumers from harmful chemical exposures.



<sup>1</sup> <https://europa.eu/eurobarometer/surveys/detail/2156>

<sup>2</sup> [https://www.beuc.eu/sites/default/files/publications/beuc-x-2021-038\\_towards\\_toxic-free\\_consumer\\_lives.pdf](https://www.beuc.eu/sites/default/files/publications/beuc-x-2021-038_towards_toxic-free_consumer_lives.pdf)

# BEUC RECOMMENDATIONS

BEUC calls on EU policymakers to turn the Chemicals Strategy into reality through:

## 1 Strict regulation

Robust regulations are needed to minimise consumers' exposure to endocrine disruptors and substances of very high concern, as recognised in the Chemicals Strategy for Sustainability. The EU should urgently phase out all harmful chemicals, including PFAS, from consumer products, especially those in direct contact with consumers, such as food packaging, textiles, cosmetics, and children's products.

## 2 Better enforcement and market surveillance

1. Member States must significantly increase available resources for market surveillance, including of imports and online sales.
2. The Commission should establish uniform conditions and frequency of checks for high-risk products, including online sales and imported goods, under the Market Surveillance Regulation.
3. The Commission should promote stronger cooperation and joint testing among Member States for more effective enforcement actions.
4. The EU should support consumer organisations as key partners in achieving the objectives of the Chemicals Strategy, providing funding for product testing and awareness campaigns.

## 3 Transparent labelling

Manufacturers should be required by law to declare the chemicals present in all consumer products to enable consumers to make informed choices and avoid potential exposure.

## 4 Promoting safer alternatives

The EU should encourage the development, research, and promotion of safer alternatives and ensure that replacements do not pose similar risks to human health and the environment.

## 5 Strengthened controls of online sales

Online platforms should bear increased responsibility for ensuring the safety and compliance of products sold on their platforms. This can be achieved through the implementation of strict screening and verification processes, which will help identify and prevent the sale of products that may pose risks to consumer health and/or contain substances already banned in the EU.

# CHEMICALS IN PRODUCTS: FINDINGS BY CONSUMER GROUPS, 2017-2023

BEUC members, national consumer organisations in Europe, regularly conduct tests that reveal the presence of chemicals of concern in products that consumers frequently use and have close, regular, and prolonged contact with. These products include clothing, footwear, toys, childcare items, cosmetics, hygiene products, food packaging, and more.

Among the chemicals found by our members are some that may cause cancer, birth defects, and reproductive harm – or that persist indefinitely in nature and accumulate in food chains. Sadly, a significant portion of consumer exposure to these chemicals could be prevented, as they are found in only some but not all of the tested products, indicating that alternatives are available. Moreover, tests showed that the expensive option is not always the best one: sometimes the more expensive products contain chemicals of concern that are not present in the cheaper alternatives.

Based on the tests conducted between 2017 to 2023, we highlight three specific areas of concern: the use of PFAS ('forever chemicals'), the presence of potentially harmful chemicals in children's products, and dangerous products sold on online marketplaces.

## Spotlight #1: PFAS

Per- and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals that persist in nature, earning them the label "forever chemicals." These substances are not comprehensively regulated in the EU, despite their widespread use in various consumer products such as food packaging, clothing, and other items that require water, grease, and stain resistance properties.

Scientists have linked PFAS exposures to a range of health issues, including reproductive and developmental problems, liver and kidney damage, immune system dysfunction, thyroid disorders, and increased cancer risks. Given their persistence and potential health risks, it is crucial to strengthen regulations and take decisive action to mitigate the widespread use and potential harm associated with PFAS in consumer products.

Tests performed by BEUC's members have among others found these substances in everyday consumer products like [waffle irons](#), [food paper wraps](#), [dental floss](#), [hardshell jackets](#), [waterproofing sprays](#), [face cream](#) and [bike oil](#).





**Fast food packaging:** In 2017, Belgian consumer group Testachats/Testaankoop, together with four other BEUC members<sup>3</sup>, [found](#) high levels of fluorinated compounds in one-third of 65 tested fast-food packaging. A 2018 test by our French member UFC-Que Choisir showed [similar results](#), with fluorinated compounds detected in more than 25% of the tested samples. Some of the compounds detected by our members are considered to be of “very high concern” by the EU, such as PFOA, a chemical that can damage fertility and harm the unborn child. No detailed EU rules exist for paper and board food packaging. Therefore, the use and safety of these compounds remains essentially unregulated in practice.



**Dental floss:** According to findings from our Danish member, Forbrugerrådet Tænk, 20 out of 59 types of dental floss [inspected](#) contained PTFE, also known as Teflon. It is worth mentioning that 10 products declared PTFE on their packaging and that 10 companies confirmed using PTFE when asked. Use of products containing PTFE could lead to consumer exposure through oral intake. Past research has shown that PTFE can contain small amounts of the highly toxic substance, PFOA.



**Hardshell jackets:** Sweden’s Råd & Rön [revealed](#)

that 8 out of 17 tested jackets contained fluorocarbons, which are used to make the textile dirt and water repellent. Research has associated some fluorocarbons with various negative effects including liver damage, adverse impacts on fat metabolism, the immune system, and reproduction. Sveriges Konsumenter also found that the jackets which did not contain fluorocarbons did at least as well in the waterproofing test.



**Face creams:** Through their app Kemiluppen, Forbrugerrådet Tænk, [investigated](#) the presence of PFAS in face creams and found that 8 out of 62 creams contained fluorinated ingredients such as PTFE, polyperfluoroisopropyl ether or perfluorodecalin.



**Waffle Irons:** In a market survey [conducted](#) by our Swedish member, Sveriges Konsumenter, out of 15 commonly used waffle irons, 11 were found to contain PFAS in their non-stick coating, with PTFE or Teflon being the most well-known brand of coating.



**Waterproofing spray:** Forbrugerrådet Tænk [tested](#) 16 products and found that 7 of them contained PFAS. Using these sprays could expose consumers to these chemicals, either through direct skin contact or through inhalation.

These examples clearly demonstrate the widespread use of PFAS, raising concerns about potential consumer exposure. Recognising the urgency of the situation, the EU Chemicals Strategy for Sustainability rightly calls for a ban on all non-essential uses of PFAS and emphasises the need to reduce exposure from sources such as food, water, and air. In line with these crucial objectives, [BEUC fully supports and calls for the prompt adoption of the proposed universal PFAS restriction](#).

<sup>3</sup> Italy ([Altroconsumo](#)), Denmark ([Forbrugerrådet Tænk](#)), Spain ([OCU](#)) and Portugal ([DECO](#))



## Spotlight #2: Toys and children's products

Children are particularly vulnerable to chemical exposure due to their rapidly developing bodies. Also, compared to adults, children breathe more air, consume more water, and eat more food per kilogram of body weight, resulting in greater exposure to contaminants per kilogram of body weight. This makes children more susceptible to the adverse effects of these substances.

In the EU, specific regulations are in place regulating the presence of chemicals in toys and other products intended for children. Existing safeguards are however inadequate<sup>4</sup> in fully protecting children from exposure to harmful chemicals. Additionally, the enforcement of these regulations may not always be stringent enough, allowing certain products containing hazardous chemicals to slip through the cracks.

BEUC's member tests have shed light on this concern, revealing the presence of various chemicals of concern in toys and children's products. For instance, in [baby carriages](#), [car seats](#), [strollers](#), [baby wipes](#), [sunscreen](#), [coloured pencils](#), [toys](#), [highchairs](#), [rubber boots](#), and [running bikes](#) several different substances were found. These are linked to potential negative impacts on children's health, such as neurodevelopmental impairments, behavioural and cognitive issues, developmental delays, immune system disruptions, asthma, allergies, and neurodevelopmental concerns.



**Baby carrier products** (e.g. carriages, strollers, car seats, etc.): Denmark's [Forbrugerrådet Tænk](#) found that 8 out of 33 strollers failed its chemical tests. Meanwhile, [Råd & Rön](#) found 5 out of 6 tested carriages in Sweden to contain various substances of concern. For example, polycyclic aromatic hydrocarbons (PAHs) were found in the handle of the carrycot, fluorinated substances were present in the leather upper, and the flame retardant TDCP was detected in the material from the carrycot. It is important to note that repeated skin contact with the PAH naphthalene can lead to skin redness and inflammation. Additionally, TDCP is suspected of

causing cancer. Together with its toxic cousin, TCEP, the use of TDCP is strictly regulated in toys, but not in other products used by children such as play mats, carriages, or strollers.



**Children's clothing and footwear:** [Findings](#) from Forbrugerrådet Tænk revealed that 1 out of 11 tested snowsuits for children had high levels of PFAS. All the snowsuits contained small amounts of bisphenol A (BPA), a known endocrine disruptor. Although there are no legal limits for BPA in clothing and textiles, the EU restricts BPA in toys because it can damage fertility and disrupt the hormonal systems. BPA and

<sup>4</sup> [https://www.beuc.eu/sites/default/files/publications/beuc-x-2021-090\\_evaluation\\_of\\_the\\_toy\\_safety\\_directive\\_chemicals\\_strategy\\_for\\_sustainability.pdf](https://www.beuc.eu/sites/default/files/publications/beuc-x-2021-090_evaluation_of_the_toy_safety_directive_chemicals_strategy_for_sustainability.pdf)

other bisphenols were also found in all 11 leather baby shoes [tested](#) by seven BEUC members<sup>5</sup>. A test of children rubber boots by Forbrugerrådet Tænk [showed](#) that all products contained PAHs, including naphthalene.



**Children's toys:** 7 out of 10 teething toys tested by our Swiss member, Fédération romande des consommateurs, [released](#) one or more bisphenols (up to 4), including BPA and its equally toxic cousins, BPS and BPF. Out of 15 [slime toys tested](#) by BEUC members, 4 contained elevated amounts of boron compounds. Exposure to these compounds can harm children's health for example resulting in eye and skin irritation, digestive problems, vomiting, and liver damage if orally ingested. Additionally, 3 out of 20 [toy dolls](#) contained the banned phthalates DEHP, DINP, and DBP. One doll was found to contain 11.4% of the phthalate DEHP, or 114 times above the legal limit. Phthalates are plasticisers used to soften plastic. DEHP, DINP and DBP are known to be reprotoxic and endocrine disrupting. The EU has banned the use of these chemicals in toys since 1999.



**School equipment:** [Testing](#) conducted by our German member, Stiftung Warentest, found various chemicals of concern in 21 out of 32 pens and highlighters. Among the substances detected in the test were formaldehyde, PAH, allergenic substances, and heavy metals, such as lead. Similarly, our Austrian member, VKI, [tested](#) 20 sets of coloured pencils and found high levels of aromatic amines. Some of these substances are carcinogenic and possibly harmful to

reproductive health. Sweat and friction when using pencils can result in exposure to these substances through skin contact, while mouth contact can also result in ingestion.



**Food cans, sippy cups, tableware:** Slovenian consumer group ZPS together with six other BEUC members<sup>6</sup>, [found](#) that 8 out of 16 tested drinking bottles / sippy cups released bisphenols, including BPA, BPS, or BPF. Also, all 58 soda or food cans included in the test contained one or more bisphenols (up to 6). VKI from Austria and Forbrugerrådet Tænk found that children's [tableware](#) and [cups](#) can release melamine and formaldehyde, in some cases exceeding the legal limit a dozen times (up to 104 times in one case). Melamine is a possible carcinogen. It is also suspected of causing diseases in the bladder and kidney systems. Formaldehyde is presumed to cause cancer and can cause allergies.



**Children's cosmetics:** Out of 40 products [checked](#) by Forbrugerrådet Tænk, 9 contained potential endocrine disruptors such as BHA, BHT, parabens, or ethylhexyl methoxycinnamate. While BHA (butylated hydroxyanisole) and BHT (butylated hydroxytoluene) have been associated with potential health risks such as hormone disruption and allergic reactions, research has linked parabens to reproductive toxicity, and their presence in human breast milk has also been detected. Spanish consumer group OCU likewise found the potential endocrine disruptors, octocrylene and homosalate, in 8 out of 29 popular [sunscreens](#) for children.

**These findings underscore the need for stronger safeguards and better regulation to safeguard children's well-being and reduce their exposure to harmful chemicals in products designed for their use. Stricter limits and comprehensive testing protocols are necessary to ensure that toys, childcare products, and accessories meet stringent safety standards.**

<sup>5</sup> Altroconsumo (Italy), dTest (Czechia), Forbrugerrådet Tænk (Denmark), Testaankoop/Testachats (Belgium), UFC-Que Choisir (France), Verein für Konsumenteninformation (Austria), and Zveza Potrošnikov Slovenije – ZPS (Slovenia). The test was coordinated by International Consumer Research & Testing – ICRT.

<sup>6</sup> Ibid.



### Spotlight #3: Online sales

Online sales platforms present unique challenges when it comes to ensuring the safety of products<sup>7</sup>. The vast number of products available, often from multiple sellers and jurisdictions, makes it difficult to implement effective quality control and safety measures. Additionally, the lack of physical inspection and direct interaction with the seller adds an extra layer of complexity in verifying the safety and compliance of products sold online. These factors highlight the need for increased responsibility and stricter screening processes on the part of online platforms to protect consumers from potentially unsafe or non-compliant products.

Investigations conducted by BEUC's members revealed the presence of hazardous substances in items purchased online. Cheap jewellery, cosmetics for kids, balloons, children's toys, and cosmetic products for adults were found to contain substances such as heavy metals, endocrine disruptors, and persistent chemicals. These substances are either illegal or restricted in the EU, raising concerns about the effectiveness of current regulations and the ability to guarantee the safety of products sold online.



**Cheap jewellery:** 7 out of 17 items purchased by Forbrugerrådet Tænk from online marketplaces such as Wish did not live up to the legal requirements: 6 items released too much nickel, which is allergenic. The tested products exceeded the legal limit by 10 to 344 times. Some of the jewellery also contained the heavy metals lead and cadmium. One item contained 38% cadmium – or around 4,000 times above the legal limit – while another item contained 12% lead (1,200 times above the legal limit). Lead can harm the nervous system and the developing brain. Cadmium can harm organs, for instance the kidneys.



**Cosmetics for kids:** Our Dutch member, Consumentenbond, purchased 11 children's makeup sets from online shops. Only 2 sets provided the required information, such as the ingredient list, while the majority lacked mandatory details or displayed information in Chinese. Three products exceeded the legal limit for lead, in one case by 425 times. Lead is highly toxic, while unclear or missing ingredient lists can increase risks that children inadvertently use products containing ingredients they are allergic to.

<sup>7</sup> [https://www.beuc.eu/sites/default/files/publications/beuc-x-2022-029\\_products\\_from\\_online\\_marketplaces\\_continue\\_to\\_fail\\_safety\\_tests.pdf](https://www.beuc.eu/sites/default/files/publications/beuc-x-2022-029_products_from_online_marketplaces_continue_to_fail_safety_tests.pdf)





**Children's toys** (e.g., fidgets): [Testing](#) conducted by Forbrugerrådet Tænk on 21 fidgets obtained from Wish, Amazon, or eBay revealed that 9 of them contained substances that are either banned or restricted in the EU. Among the products which failed the test, 4 products contained naphthalene which is suspected of being carcinogenic; and 1 product contained the endocrine disrupting phthalate DIBP in amounts above the legal limit.



**Balloons:** Our Italian member, Altroconsumo, [purchased](#) 12 packs of balloons, 10 on online

marketplace platforms such as Amazon and Wish and 2 in brick-and-mortar shops. 7 of the tested balloons contained potentially carcinogenic chemical compounds in concentrations above the safety limit set in EU toy legislation. Mandatory safety warnings about the dangers for young children were missing from two of the packets and information was not always available in the national language.



**Cosmetic products:** Among 23 products [obtained](#) by Denmark's Forbrugerrådet Tænk from online platforms such as Wish, Fruugo, Amazon, and Shein, 17 were discovered to contain suspected endocrine disruptors, including parabens, cyclopentasiloxane, and BHT. Three of the products contained illegal ingredients, namely isobutylparaben and isopropylparaben. These ingredients have been banned in cosmetics since 2015 due to concerns over risks to reproductive health.

The EU Chemical Strategy for Sustainability has pledged to enhance enforcement to ensure the safety of online products. Given the above findings, BEUC urges policymakers to ensure ongoing reforms of EU law hold online marketplaces liable for selling such products and implement stricter screening processes to protect consumers from potentially unsafe or non-compliant products. This must entail rigorous verification of product safety, compliance with regulations, and improved transparency and labelling practices. BEUC emphasises the need for prompt action to implement these measures and enforce stricter controls, safeguarding the safety of online purchases.



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