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ENFORCEMENT 3/26

Enforcement of e-commerce articles 2025

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The Swedish Chemicals Agency works to reduce the risk of harm to people and the environment from chemicals. We are a government agency that checks that companies comply with the rules for chemical products, pesticides and chemicals in articles. We examine applications for permits to sell and use pesticides. To promote good health and a better environment, we develop legislation and other instruments in Sweden, within the EU and internationally.

Swedish Chemicals Agency.

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Preface

The Swedish Chemicals Agency is working on behalf of the government to strengthen the work for a non-toxic circular economy in Sweden, the EU and globally. Developing enforcement of chemicals is part of this work. More effective enforcement also contributes to reducing chemical risks in everyday life and is thus a step on the way to achieving the Parliament´s environmental quality goal Non-toxic environment, the goal for which the authority is responsible.

This report describes an enforcement project on articles sold via e-commerce. The project was carried out by the Swedish Chemicals Agency's Enforcement Department. Daniel Ahlström and Karin Rumar have been project managers. Frida Ramström, Johan Östergren Hemmander, Camilla Westlund and Susan Strömbom have also participated in the project.

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Summary

The project shows that articles sold via e-commerce mostly contain restricted substances. A total of 188 articles from 105 actors were examined in three different sub-projects. 139 articles were analysed in the categories of toys, jewellery, electronics, and soft plastic articles. Of these, 72 percent of the articles from drop shipping stores, 64 percent from market platforms, and 26 percent from classic online stores contained non-compliant levels of chemical substances. The most common non-compliances were excessive levels of lead in electrical articles, cadmium in jewellery, and short-chain chlorinated paraffins and phthalates in soft plastic materials. Of the 49 textile articles analysed, only one item contained levels above the applicable limit values. All e-commerce actors removed the deficient articles after being informed of the results.

The project shows that non-compliant articles reported to Safety Gate are largely still available on the EU market, despite requirements that online marketplaces should scan notifications in Safety Gate to check that they do not have the non-compliant products on their platforms.

The introduction of new requirements for traceability of articles, especially with a focus on e-commerce, has contributed to more articles being formally correctly labelled. However, enforcement shows that the labelling of economic operators is often incorrect, for example by the authorised representative who does not exist or the identification marking not being traceable. As a result, articles that appear to be correctly labelled may be non-compliant and potentially risky.

Overall, the project shows that the current regulatory framework and market surveillance are not sufficient to handle the influx of non-compliant articles via e-commerce from countries outside the EU. There is a need for stricter requirements that ensure that economic operators take proactive responsibility before the articles reach the EU market.

The selection is risk-based, which means that the result is not representative of the entire market.

1. Introduction

The section describes which definitions are prerequisite for the content of the report, why the enforcement project was carried out, relevant legislation and the different types of actors that are active in e-commerce today.

1.1 Definitions

Word	Explanation
E-commerce	
Drop shipping	A form of e-commerce where the party entering into an agreement with the buyer does not have its own inventory.
E-commerce	A form of electronic commerce, in which a seller sells products or services directly to a buyer via the internet.
Actors	
Classic operators: manufacturer, importer and distributor	Within the various legislations, there are some differences in the definitions of these concepts. Significance of articles in this report: • Manufacturer – manufactures the article or puts its own name on the product • Importer – bringing the articles into the EU • Distributor – suppliers within the EU
Drop shipping web shop (web shop without its own warehouse)	Drop shipping is a business model where web shops select products from one or more suppliers and provides these in their own web shop. When a consumer makes a purchase, the web shop forwards the order to the supplier in the consumer's name. The supplier is responsible for the warehousing, packaging and distribution of the product. For the consumer, the web shops appear to be the only commercial operator. Unlike online marketplaces, the web shop itself sets the price of each product. Against this background, the Swedish Chemicals Agency assesses that web shops that use drop shipping as a business model have the same responsibilities under the chemical's legislation as classic web shops.
Drop shipping supplier	Supplier specialises in a product range for drop shipping web shops. It's also common for online marketplaces to act as drop shipping suppliers.
Economic operator	Definition in Article 3 of the Market Surveillance Regulation (EU) 2019/1020: means the manufacturer, the authorised representative, the importer, the distributor, the fulfilment service provider or any other natural or legal person who is subject to obligations in relation to the manufacture of products, making them available on the market or putting them into service in accordance with the relevant Union harmonisation legislation.
E-commerce actor	In this report, the word is used across all types of online actors such as classic web shops, drop shipping web shops, or online marketplaces
Fulfilment service provider	A natural or legal person who, during commercial activities, offers at least two of the services of storage, packaging, addressing and dispatch, without having ownership rights to the products concerned.
Online marketplace	A service provider (intermediary) that enables sellers to sell products directly to customers via an online platform. An online marketplace can be equated with a shopping mall where those who sell the products correspond to the web shops. The online marketplace must specify

	who is the seller for each product. Unlike drop shipping web shops, it is the individual seller who sets the price of the product.
Classic web shop – own inventory	This is the traditional form of e-commerce. The company behind the web shop owns the products that are sold. Most of the time, they have their own warehouses. Thus, they are also responsible for product safety. In this report, we do not include online marketplaces in the concept of a web shop.
Others	
Articles	An object that during production acquires a particular shape, surface or design, which determines its function to a greater extent than its chemical composition. Examples are dolls, electronics, interior items, jewellery, etcetera.
Product	The report uses the term products as a collective term for all types of products, including articles. In the horizontal parts, such as legislation, products are therefore used, while articles are used specifically in the enforcement of articles.
Safety Gate and Safety Gate-notifications	The EU's dangerous product warning system, where European authorities submit notifications to Safety Gate. Each notification contains information about the dangerous product, the identified risks and the measures taken by the trader or decided by the authority.
Proactive work/responsibility	Aims at the preventive work that should be done by companies to ensure that products placed on the market comply with applicable rules and requirements. It differs from reactive work as measures are only taken as a reaction to the non-compliances found by authorities. Examples of proactive measures can be: • Systematized approach to product safety • Be up to date on current legislation • Setting detailed written requirements for their suppliers (including examples of substances that should not be present in certain materials) • Partner with reliable and knowledgeable suppliers • Have your own restricted lists • Perform chemical sample analyses • Review test reports • Opting out of risk material
Reactive responsibility	Non-compliances are corrected when they are discovered. This type of responsibility is held by online marketplaces.
XRF	X-Ray Fluorescence. With test instruments based on this technique, X-rays can be used to measure which elements are present in the surface of a material and approximately how much of the substance the material consists of.

1.2 Reasons for this e-commerce project

Enforcement of e-commerce is a high priority, as we see an increase in e-commerce and a higher degree of non-compliance in products sold online. In addition to the risk that non-compliant products end up with consumers, it also contributes to a non-level playing field.

Companies operating within the EU must meet high product safety requirements, while operators outside the EU are not always subject to equivalent regulations in their home countries. The lack of equivalent regulations means that these operators

can be expected to be less familiar with EU regulations and therefore not always meet the requirements that apply within the Union. The EU strives to ensure that products that reach consumers are safe and has therefore introduced strict rules to protect consumers. Both the Swedish government[1] and within EU [2] are signaling that it is important to control both products sold via E-commerce and actors operating in E-commerce.

1.3 Chemical regulations

The following legislation is the one that has been relevant in this project.

1.3.1 Reach regulation (EC) no 1907/2006)

Reach[3] stands for Registration, Evaluation, Authorization and Restriction of Chemicals. The Reach Regulation covers requirements for chemical products, including pesticides, and articles. Annex XVII to the REACH Regulation contains restriction rules for certain substances. There are also rules restricting certain uses of substances that pose an unacceptable risk

1.3.2 POP regulation (EC no 2019/1021)

POP stands for *Persistent Organic Pollutants*[4], and prohibits the placing on the market and use of a number of substances that are difficult to degrade and that can harm the environment and humans at low concentrations. Examples of regulations in the regulation are short-chain chlorinated paraffins in plastic products.

1.3.3 RoHS-Directive (EU/2011/65)

RoHS stands for *Restriction of the use of certain hazardous substances in electrical and electronic equipment.* The RoHS-Directive[5] is a product-specific directive for electrical and electronic equipment that restricts the use of certain metals, flame retardants [6] and phthalates. The directive includes requirements for products to be labeled. The CE mark must show that the manufacturer certifies that

[1] https://www.regeringen.se/artiklar/2025/02/rundabordssamtal-om-konsumentskydd-och-konkurrens-pa-lika-villkor-for-e-handelsplattformar
[2] https://taxation-customs.ec.europa.eu/customs/eu-customs-union-facts-and-figures/articles-bought-online_en
[3] Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
[4] Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants
[5] The rules are incorporated into Swedish legislation through the Ordinance (2012:861) on hazardous substances in electrical and electronic equipment (§§ 8-9) and the Swedish Chemicals Agency's regulations (KIFS 2017:7).
[6] Chemical compound used to make ignition of a material more difficult or reduce the spread of fire.

the requirements of specific EU legislation are met, and the contact details must show which company is responsible for the product. For traceability, there must also be an ID marking, it can be an EAN code or an article number, for example.

1.3.4 Toy Safety Directive (2009/48/EC)

EU Toy Safety Directive [7] contains several requirements for the content of chemicals in toys. These include limit values for how much certain metals can leak out, restrictions on the content of CMR substances (substances that can cause cancer, damage genetic material or reproductive ability) and perfume substances. As in the RoHS Directive, the Toy Safety Directive requires labelling.

1.4 Other relevant legislation

In addition to chemicals legislation, there is other EU-wide legislation that is relevant to trade, including e-commerce.

1.4.1 Regulation (EU) 2022/2065 Digital Services Act

The EU's Digital Service Act (DSA) rules entered into force in full on 17 February 2024. The aim is to ensure that the digital environment in the EU is secure, predictable and trustworthy. The aim of the rules is to prevent illegal and harmful online activities and the spread of disinformation. The Swedish Post and Telecom Authority is the national coordinator for the rules and, together with the Swedish Consumer Agency and the Swedish Media Authority, will be responsible for enforcement and control of compliance with the rules in Sweden. The Swedish Chemicals Agency has no enforcement responsibility for the regulation. However, it does contain requirements for online marketplaces, such as requirements to remove illegal content and that information about sellers must be available for each product on the website.

1.4.2 Market surveillance regulation (EU) 2019/1020

Within the EU, there is a market surveillance regulation with harmonised rules on market surveillance.[8] The regulation addresses problems with e-commerce and introduces new provisions on measures relating to e-commerce.

[7] Introduced into Swedish legislation through the Act (2011:579) on Toy Safety, the Ordinance (2011:703) on Toy Safety, the Swedish Chemicals Agency's regulations (KIFS 2017:8) on the flammability and chemical properties of toys, the National Electrical Safety Board's regulations on electrical properties for toys (ELSÄK-FS 2011:1) and the Swedish Consumer Agency's regulations on toy safety (KOVFS 2011:5). The rules on labelling can be found in KOVFS 2011:5

[8] Regulation (EU) 2019/1020 of the European Parliament and of the Council of 20 June 2019 on market surveillance and compliance of products and amending Directive 2004/42/EC and Regulations (EC) No 765/2008 and (EU) No 305/2011.

When a company established outside the EU sells products on the EU market, the manufacturer is required to have a representative within the EU. This requirement follows Article 4 of the Market Surveillance Regulation. In the area of chemicals, the requirement applies, among other things, to products that are subject to the rules for electronics (RoHS) and toys (the Toy Safety Directive). Where the manufacturer has appointed a representative (authorised representative), he or she shall, at the request of market surveillance authorities, provide documentation and cooperate with the authorities to ensure that the product complies with the applicable requirements.

The European Commission has issued a notice on guidelines for Article 4[9], it states, among other things:

> *Where the product is being shipped from outside the EU directly to an end-user in the EU, if an authorised representative has been mandated in writing for the specific tasks under Article 4, it is the economic operator referred to in Article 4.* ***If the manufacturer has not appointed an authorised representative, the product may not be offered for sale to EU end-users****. The economic operator planning to offer the product for sale to EU end-users will need to ensure that the manufacturer appoints an authorised representative for that product*

This means that electrical products and toys shall not be sold unless the manufacturer has arranged an authorised representative.

Online marketplaces can have several different roles. In cases where they only mediate products, they are not covered by the new provision Article 4. However, if they take on greater responsibility for the products as defined below, they become fulfilment service provider and thus a responsible economic operator.

Fulfilment service provider is defined in Article 3(1):

> any natural or legal person offering, in the course of commercial activities, at least two of the following services; warehousing, packaging, addressing and dispatching, without having ownership of the products involved

The requirement for the authorised representative is missing for other chemicals legislation such as the REACH, CLP and POPs regulations.

1.4.3 General Product Safety Regulation (EU) 2023/988

On 13 December 2024, the new Product Safety Regulation entered into force. In the context of this project, the provisions on traceability have been particularly relevant. Article 10 allows a producer to appoint a representative within the Union.

[9] COMMISSION NOTICE Guidelines for economic operators and market surveillance authorities on the practical implementation of Article 4 of Regulation (EU) 2019/1020 on market surveillance and compliance of products. EUR-Lex - 52021XC0323(01) - EN - EUR-Lex (europa.eu)

In some cases, and on certain labels, this function is referred to as the Authorised Representative or EU Representative (EU REP can be indicated on the label). These are the same requirements as those in Article 4 of the Market Surveillance Regulation, but the difference is which products are covered. In this legislation, in simplified terms, all consumer products are covered by these requirements, except for those that have similar provisions in other legislation.

Furthermore, Article 19 provides that the following information must be provided in the context of online offers of products:

- the name and contact details of the manufacturer and, where the manufacturer is not established in the Union, the name and contact details of the responsible economic operator.
- information that allows identification of the product, including an image of the product.

1.5 Who is responsible?

There are many different business models in e-commerce, and this report will only present the most common ones. In a simplified image there are two types: web shops and online marketplaces. The web shops can be divided into classic web shops and web shops that use drop shipping (e-commerce without its own warehouse).

1. **Web shop**
    a. Classic web shop with its own inventory
    b. Drop shipping web shop (does not have its own inventory, but the products are shipped directly from a third party)

2. **Online marketplace**

See Annex 1 for more information on how the different models work. The responsibility for product safety differs between the different models. Our assessment is that web shops have responsibility regardless of whether they are engaged in drop shipping or not. The reason is that it must be clear who the actual seller is. If no other seller is listed, the web shop will be liable. The only actor exempted from proactive liability is online marketplaces that only mediate other sellers' products. The online marketplace can be equated with a shopping mall and the sellers with the physical shops. The seller then becomes the responsible actor and the seller's contact information must be provided on the online marketplaces. Below is a summary of proactive responsibility.

Responsible for proactive product safety:

- Classic web shops that sell products and have their own warehouse
- Web shops that sell products through the drop shipping business model and do not have their own stock (drop shipping web shops)
- Sellers selling products in the online marketplaces
- Online marketplaces are considered economic operators when they sell products under their own name or where the seller's name is not clearly indicated
- Online marketplaces that act as fulfilment service providers [10]

Responsible for reactive product safety:

- Online marketplaces in their role as intermediaries.

Online marketplaces are not responsible in the first stage, but when a non-compliant product is detected, the online marketplace must remove or disable access to the articles with illegal content.

2. Method

2.1 Selection of companies and articles

In this year's project, we focused on different areas:

1. **E-commerce enforcement with chemical analyses** - the purchase of samples that were checked through review of labelling and chemical analyses
    a. Electronic products, jewellery, and soft plastic articles etc.
    b. Textiles that we tested for certain restricted substances in textiles

2. **Image search** where we scanned online deals on certain articles

In total, we inspected 95 actors and 188 articles. In addition to analysing articles, we conducted image searches on 40 articles from the 2024 project.

In total, we checked 95 actors and 188 products. In addition to analysing chemical content in products, we conducted image searches on 40 non-compliant products

[10] *Fulfilment service provider*: A natural or legal person who, in connection with commercial activities, offers at least two of the services of warehousing, packaging, addressing and shipping, without having ownership of the articles concerned.

from the 2024 project. The various sub-projects are described in more detail below.

2.2 Enforcement of e-commerce with analyses

2.2.1 Electronics, jewellery and soft plastic articles

2.2.1.1 Selection of substances to analyse

We have mainly focused on verifying compliance with the substances restricted by the REACH Regulation, the RoHS Directive and the POPs Regulation. We chose to focus on a few substances or groups of substances where we often see non-compliances, such as short-chain chlorinated paraffins (SCCPs), phthalates (both limited and on the Candidate List), lead, cadmium, nickel and polycyclic aromatic hydrocarbons (PAHs). Full substance names can be found in Appendix 2. The substances and materials tested are shown in Table 1.

Table 1. Which substances were analysed in different articles.

Article	Substance
Articles of PVC or other soft plastics	Phthalates, short-chain chlorinated paraffins (SCCPs) polycyclic aromatic hydrocarbons (PAHs)
Jewellery	Lead, cadmium and nickel
Electrical products	Lead, cadmium, phthalates, brominated flame retardants (PBB, PBDEs and HBCDD)
Toys	Phthalates, short-chain chlorinated paraffins (SCCPs) Metals regulated by the Toy Safety Directive have been screened with XRF

2.2.1.2 Labelling

According to the RoHS Directive and the Toy Safety Directive, electrical articles and toys must be marked with CE marking, contact address of the manufacturer and importer and ID marking (e.g. article number, type number, batch number). In cases where the contact address of the importer was missing, the information on the authorised representative was checked instead, in accordance with Article 4 of the Market Surveillance Regulation. We reviewed the labelling on all electrical articles and toys.

2.2.1.3 Our approach

In the spring of 2025, we purchased a total of 111 different products from 30 different e-commerce actors of the types of online marketplaces and web shops (with or without our own inventory). If the articles had non-compliances, we also contacted the economic operators higher up in the supply chain. These operators

were 14 sellers, 16 were authorised representatives of articles on online marketplaces and two suppliers of articles to web shops.

Once the articles were delivered, we checked the labelling and did an initial screening with our XRF instrument[11]. Based on the results of this screening, we assessed the need for further analysis and, if so, which parts and substances should be tested. We then sent the articles for analysis to an external laboratory.

2.2.2 Textiles

The last pure enforcement project aimed at textiles was in 2020[12], Although there were only a few non-compliances, new players have entered the market since then. Therefore, in this year's project, we directed the enforcement of textiles towards several online marketplaces, to check how they lived up to the requirements set out in the REACH regulation and in some cases also the POPs regulation.

49 garments and shoes were purchased and tested[13]. The garments were purchased from the following five online marketplaces: Amazon, AliExpress, Shein, Temu and Wish. Criteria for the selection of the garments were that they should be dyed and that we should buy at least one wool garment, one garment in jeans, one training garment and one pyjama from each online marketplace. The substances tested can be seen in Table 2 below.

Table 2 Substances analysed for textiles

Substances	CAS nr
Nonylphenol ethoxylate	9016-45-9
Quinoline	91-22-5
Azo dyes	Several different
Formaldehyde	50-00-0
Bensen	71-43-2
P-klorbenzotriklorid, benzotriklorid, bensylklorid	Several different
Chromium (VI), cadmium, arsenic Compounds, lead compounds	Several different
PAH	Several different
Phthalates	Several different, see annex 2
SCCP	85535-84-8
MCCP	85535-85-9
Non-regulated dispersion dyes and other non-regulated substances classified as allergens	Several different

[11] An XRF instrument can measure the content of certain elements in the surface of different materials. The method gives an indication of the presence of substances and not exact concentrations. It is mainly metals that the XRF instrument is useful for, but also to read whether the soft plastic is made of PVC due to the chlorine content.
[12] No external report was published
[13] Of these 49 garments, one pair of socks was not purchased from any of the marketplaces, but from a Swedish company. The socks were purchased after a tip from a consumer who had been bothered by them.

As part of a collaboration, the garments that we had sufficient material were sent to Stockholm University to be checked with their newly developed screening method of textiles[14]. There, the garments were checked for additional substances than those found on the table above.

2.3 Image search

Within the framework of this year's project, three variants of image searches were carried out with the aim of highlighting non-compliances in the companies' self-inspection of articles. Traceability has historically been a recurring problem, as essential information such as identity numbers, product names and contact details for manufacturers have often been missing. This has partly been a consequence of the fact that such legal requirements previously did not cover most types of articles, apart from electronics and toys.

Against this background, image recognition has been used to compare images in online offers with images of articles that were previously identified as non-compliant and reported to Safety Gate[15]. The enforcement shows that measures are generally limited to the removal of the product in question in the individual case, while corresponding articles continue to be provided by other sellers on different online marketplaces. The use of image recognition helps to identify these articles as well.

In this year's project, we had three variants of image search:

1. **Image search without chemical analyses –** images from non-compliant articles in the 2024 e-commerce project were used to see how many offers of the same articles remain on the market.
2. **Koala – follow-up of a article** – follow-up of an individual article that was notified on Safety Gate to see how the existence of online offers could be affected by various measures.
3. **Analyses of similar articles -** Here we wanted to investigate whether similar articles also had the same non-compliance even though they have been sold via different online marketplaces, by different sellers and with information about different manufacturers.

[14] https://www.sis.se/nyheter-och-press/nyheter/ny-testmetod-ska-stoppa-farliga-kemikalier-i-klader/

[15] Used by authorities to disseminate information on measures taken against dangerous non-food products between the national authorities responsible for product safety in the countries of the internal market. https://ec.europa.eu/safety-gate/#/screen/home

2.3.1 Image search without chemical analyses

We selected 40 items from the 2024 e-commerce project and used image recognition to investigate whether we could identify online offers across eight different online marketplaces. Four of these were what are known as very large online platforms (VLOPs[16]) according to the DSA regulation and the four others have signed a Product Safety Pledge[17] including voluntary commitments. The particularly large online marketplaces are required under Article 41 of the DSA Regulation to carry out risk assessments of their products. Online marketplaces also must carry out spot checks of the content in Safety Gate in accordance with Article 31(3) of the DSA Regulation (which includes products from other operators) and compare it with the content of products available on their online marketplace. Those who have signed the Product Safety Pledge are committed to scanning the Safety Gate and preventing the articles from reappearing on their platform. The online marketplaces we reviewed were Amazon, Aliexpress, Shein, Temu, eBay, Etsy, Joom, and Wish.

We did not carry out any analysis on these selected articles but referred to previous analysis results and Safety Gate notification. The online marketplaces were informed of the results of the image search after each search round, which was a total of four occasions and the online marketplace was given the opportunity to comment on the identified offers.

2.3.2 Koala - follow-up of one article

In 2024, the Swedish Chemicals Agency received a tip about an electric koala toy that was suspected of not complying with the legislation. The Swedish Chemicals Agency purchased the koala for inspection and was able to establish that it did not meet the labelling requirements of the RoHS Directive and contained too high levels of lead and cadmium. The koala was sold via drop shipping and was available on many websites.

Within the project, we chose to investigate how widespread sales through image search were and what methods could be used to reduce the spread. We compiled all the online offers that we could identify and contacted the companies concerned, where we informed them that the product probably did not meet the requirements of the RoHS Directive. Furthermore, we acquired four more koalas that were marketed with the same images. These were sent for analysis to investigate whether the same deficiencies occurred in several specimens.

[16] https://digital-strategy.ec.europa.eu/en/policies/dsa-vlops
[17] https://ec.europa.eu/safety-gate/#/screen/pages/productSafetyPledge

2.3.3 Analyses of similar articles

As a further development of the image searches of previously checked non-compliant articles, we expanded with analyses for some of these articles. This is to check whether they contained the same restricted substances as the previously similar controlled articles. Based on this, five items were selected from the 2024 e-commerce project and for each selected item, between five and seven articles were identified that were provided from different online marketplaces. A total of 28 articles were purchased.

The articles were checked and analysed for the same type of substances as for our regular e-commerce inspection, which are described in section 2.1 and in Table 1.

The articles were checked and analysed for the same type of common substances that we usually find in our regular e-commerce supervision which are described in section 2.2.11 and in table 1.

3. Results

A total of 188 products from 105 actors were inspected in three different sub-projects. The results are presented below broken down by the various sub-projects. An actor can appear in several different subprojects.

3.1 Enforcement of e-commerce with analyses

Below are the analysis results regarding the content of restricted substances broken down by type of company and type of product. We also report on what non-compliances we have found in our control of labelling, as well as what measures have been taken by the companies. Appendix 2 lists all articles analysed in the project.

3.1.1 Content of restricted substances

Of the 111 articles analysed, 65 (60 percent) contained excessive levels of restricted substances. In seven articles (6 percent) there were restricted substances below the concentration limit or wanted substances that are not restricted for that

product type. In 39 products (35 percent), we did not find any of the substances sought. See Figure 1 below.

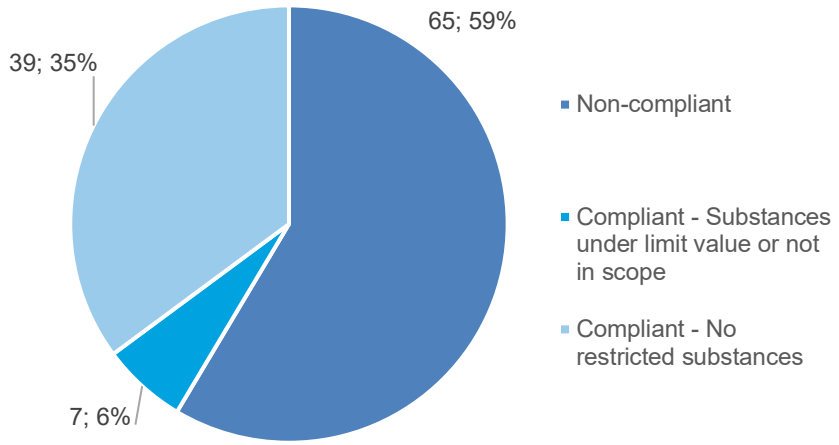


Figure 1. The figure shows the number of articles that contained restricted substances above the limit value, articles that contained restricted substances below the concentration limit or substances that are not restricted for that type of product, and articles where we did not find any of the substances sought.

In comparison between different actors (Figure 2), drop shipping web shops had the highest proportion of articles, 72 percent, with restricted substances above the content limit in the legislation. This is followed by online marketplaces with 64 percent, and classic web shops with 26 percent. The proportion of non-compliances are affected to some extent by the product types included in the review. For example, a larger proportion of electronics was analysed for the drop shipping web shops, which contributes to a higher proportion of identified non-compliances, since electronics generally have more non-compliances than other product groups (see Figures 3 and 4). However, the selection has been risk-based and carried out according to the same criteria. The products, especially electronics, that have been identified on the online marketplaces and in drop shipping stores have not been found to the same extent in the web shops reviewed.

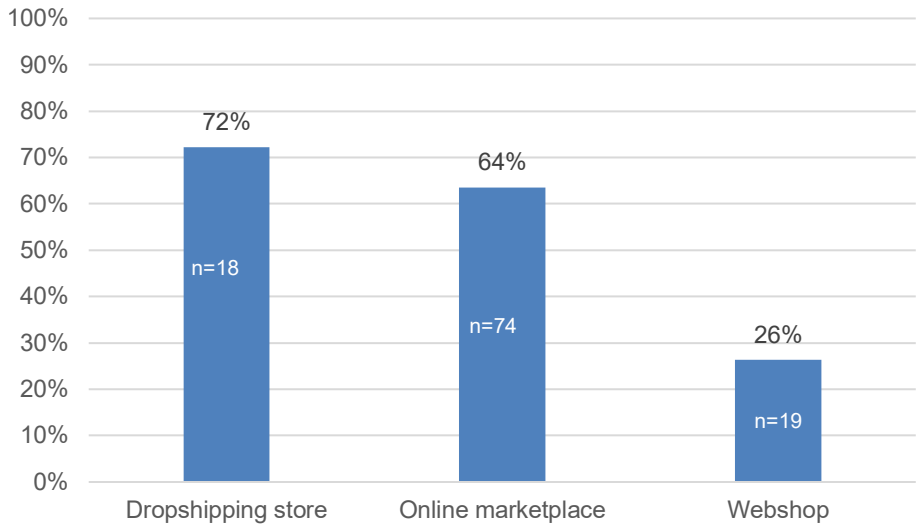


Figure 2. The figure shows the proportion of articles that contained restricted substances above limit values for different types of e-commerce players' articles that contain restricted substances above limit values (n stands for the total number of analysed articles per category).

The proportion of articles containing excessive levels of restricted substances differed between different product categories (Figure 3). Electrical products had the highest proportion of non-compliances, where 85 percent (28 out of 33) of the products for high concentrations contained restricted substances. This group mainly included headphones, simple lamps, USB chargers and other small electronics.

The category of shoes and accessories mainly included jewellery with a dark oxidised surface and four plastic bags made of PVC plastic and two pair of shoes also made of PVC plastic. 51 percent (18 out of 35) of these articles contained restricted substances above the maximum level. Sub-project textiles are presented separately further down in the report under section 3.3.

43 percent of the controlled sports and leisure articles had high levels of restricted substances (9 out of 21). This category consisted of, among other things, fish baits in PVC plastic, inflatable bathing items, ball, boxing gloves for children and water hose.

37 percent of the inspected toys had excessive levels of restricted substances (7 out of 19). This group included, among other things, dolls, electric toys and inflatable toys. The toys were analysed with XRF for metals covered by the Toys Directive. No such metals were found in the toys examined, so there was no need to conduct further chemical analyses according to the Toys Directive.

Only one product in the category of building materials and furnishings was analyzed in the project and this door mat in PVC plastic contained too high levels of restricted substances.

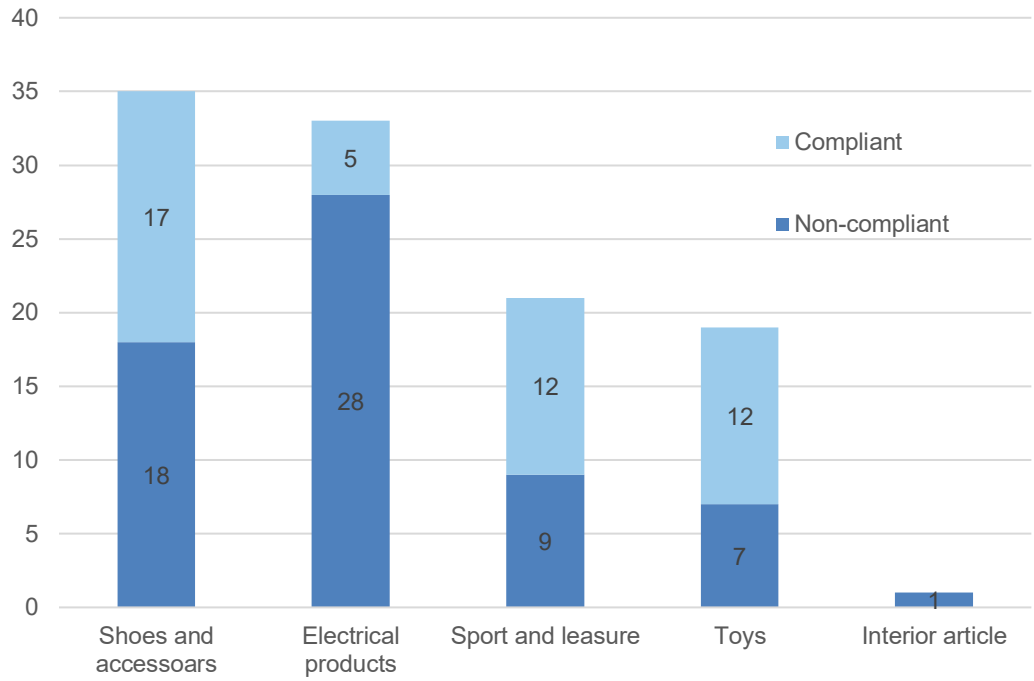


Figure 3. The figure shows the proportion of articles that contain substances above the limit value, distributed across different product groups that contain substances above the limit value.

Figure 4 shows how the proportion of articles with prohibited substances is distributed between different legislations. Please note that an article may contain prohibited substances that are covered by several pieces of legislation. The high levels of restricted substances were mainly linked to the RoHS Directive, for example too high content of lead in solder points. Of the articles inspected, 84 percent (31 out of 37) had deficiencies linked to the RoHS Directive. For the REACH and POPs regulations, the corresponding proportions were 43 (30 out of 70) and 15 (9 out of 62) percent, respectively. No restricted substances were found during screening with XRF instrument in the 11 toys that were controlled under the Toy Safety Directive. However, there were non-compliances regarding other chemicals legislation such as the RoHS Directive, the REACH Regulation and the POPs Regulation, see Figure 2 for toys.

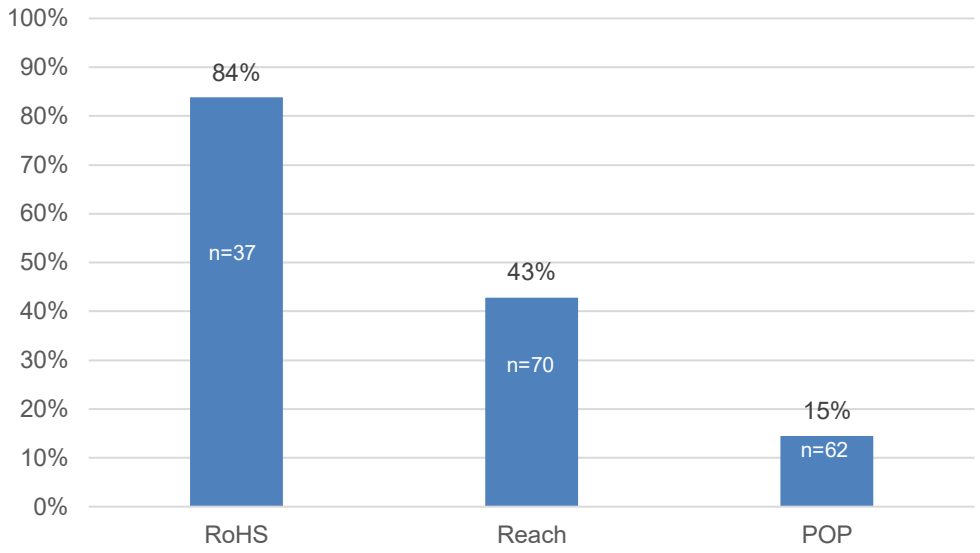


Figure 4. The figure shows how the proportion of articles with prohibited substances in the controlled articles is distributed across different legislations (n stands for the total number of controlled checks per legislation, note that a product may contain prohibited substances that are covered by multiple legislations).

3.1.1.1 What illicit substances were found?

In 13 pieces of jewellery with mainly dark oxidised surfaces, cadmium was found.

Soft plastics (mainly PVC) can be found in most categories of articles – bags, toys, electronics, cables, interior decoration items and sporting articles. The prohibited substances we found in this type of material were mainly short-chain chlorinated paraffins (SCCPs) and the phthalates DEHP and DBP in 15 and 34 articles respectively. We also found three articles with cadmium and two articles with lead in plastic.

In addition to phthalates and short-chain chlorinated paraffins, the electronics also contained lead in soldering points (25 articles) and in some cases cadmium (11 articles).

Appendix 3 lists which products we have checked in the project, and which restricted substances were found in concentrations above limit values.

Facts about substances found in the chemical analysis

Lead is a highly toxic substance that must not be used in certain articles. It can damage the nervous system and affect, for example, the ability to learn. Fetuses and children are particularly vulnerable**.**

Cadmium is toxic to the environment and can cause osteoporosis, kidney damage and cancer.

Short-chain chlorinated paraffins (SCCPs) are harmful to aquatic organisms. They are also very long-lived, do not break down in nature and are suspected carcinogenic.

Phthalates (e.g. DEHP, DIBP, DBP, BBP) are a group of substances, not all of which are harmful, but some phthalates can affect the testicles and make it more difficult to havechildren,n and some are suspected endocrine disruptors.

3.1.2 Non-compliance labelling

The labelling was reviewed for a total of 52 articles, of which 33 were electrical articles and 19 were toys. CE marking was missing on 8 products (15 percent) and contact information for manufacturers and/or importers was missing on 22 products (42 percent). Traceability deficiencies, in the form of the absence of identification marking, were found for one product (2 percent). The results are presented in Figure 5.

It should be noted that an individual product may have several labelling deficiencies. Overall, the non-compliances were relatively evenly distributed between different types of actors. A clear exception concerned the labelling of importer information for articles sold through drop shipping web shops, where such information was missing in about 90% of cases. This is related to the fact that the articles are sent directly to the consumer from a supplier outside the EU, without the drop shipping web shop physically handling the articles and thus having the opportunity to label them with their contact details.

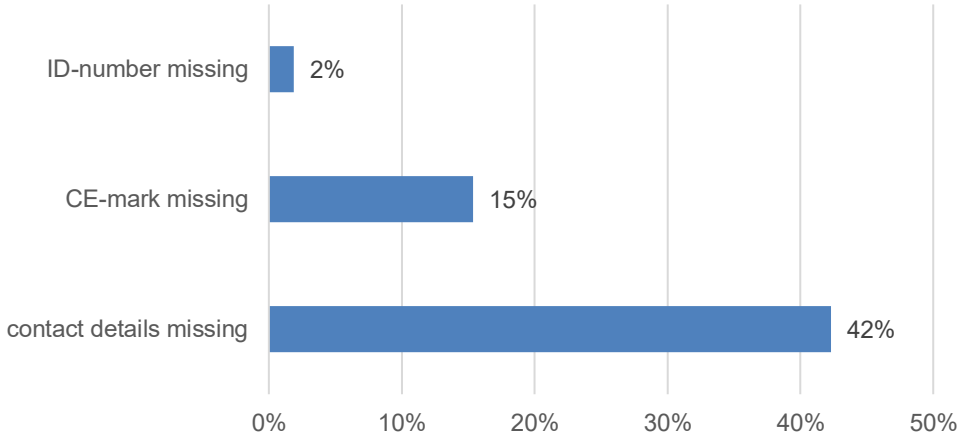


Figure 5. The figure shows the proportion and type of labelling deficiencies in 52 controlled articles (toys and electronics).

To ensure traceability, it is crucial that the identification information provided on the website where the product is sold corresponds to the label on the product itself. A comparison of this data found that all items from drop shipping shops had no ID number on the website, while it was on the label. Only 30 percent of the articles (21 out of 70) purchased on the online marketplaces had traceability in the form of the same article number, model number or equivalent on the website and on the article. For the web shops, however, all this information was compliant. Only 21 of the 70 products of the online marketplaces (30 percent) had traceability in the form of the same article number, model number or equivalent on the website and on the article. For the web shops, on the other hand, all this information was consistent.

3.1.3 Contact with sellers and manufacturer representatives

In cases where there were no EU sellers on the online marketplaces, we contacted non-EU sellers or the authorised representatives. This was the case for a total of 36 articles in the category of electrical products and toys. For 19 of the articles, information about the manufacturer, seller and the authorised representative was completely missing from the product page or on the label of the product. The online marketplaces that completely lacked this information were dhgate.com, and fyndiq.se. For some online marketplaces, this information was missing on single items.

Of the articles that contained excessive levels of prohibited substances and where we had contacted the authorised representatives and sellers (outside the EU), the result was that in 31 percent of the cases, the articles were removed by the operators, see Table 3. This means that in 69 percent of cases, there was no action

by the actors, and we instead contacted online marketplaces, which removed the articles in all cases.

Table 3 – Contact with operators for articles outside the EU and their actions. False information means that the authorised representative has stated that they are not responsible for the controlled product.

Operator	Total	Measures taken	Proportion that took measures	False information
EU REP	26	9	35 %	12
Seller outside EU	7	1	14 %	
Total	**36**	**11**	**31 %**	

False information refers to cases where the authorised representatives have stated that the information provided on the label or on the website is incorrect.

3.1.4 Textiles

Only five of the textile articles had values above the detection limit and only a pair of wool socks, purchased from Shein, contained a substance above the limit value. The substance the socks contained was nonylphenol ethoxylate, which was a substance we suspected could be found in wool garments. Nonylphenol ethoxylate has been restricted in the REACH Regulation since 3 February 2021. The restriction applies to clothing and other textiles that may be washed in water if they contain more than 0.01% by weight of the substance. Nonylphenol ethoxylate breaks down into an endocrine disruptor called nonylphenol in nature and poses unacceptable risks to fish, among other things.

With its screening method, Stockholm University mainly found other substances than those we investigated with the help of our accredited laboratory. Putting the two results next to each other to see how they corresponded was therefore not feasible for more subjects than quinoline. Quinoline was found in concentrations below the limit value of one garment both in the screening analysis and in the targeted analysis.

3.2 Image search

3.2.1 Image search without analyses

During the year, four searches were conducted on eight online marketplaces for images of 40 different articles (Figure 6). These articles had contained excessive levels of prohibited substances during checks carried out and reported to Safety

Gate in 2024. A total of 461 new offers were identified for 32 of the original 40 articles. The first search found 183 offers. The number of hits then decreased during the year, to 108 and 74 respectively, before increasing again in the last search to 96 offers.

The investigation did not include any verification of whether the online offers identified were new or whether they were the same offers that persisted over time. It should also be noted that there were eight product images that were not found at all, as well as several articles where only a few offers were left for sale. Other articles were recurring, such as dance mats, pop games, some jewellery and a massager.

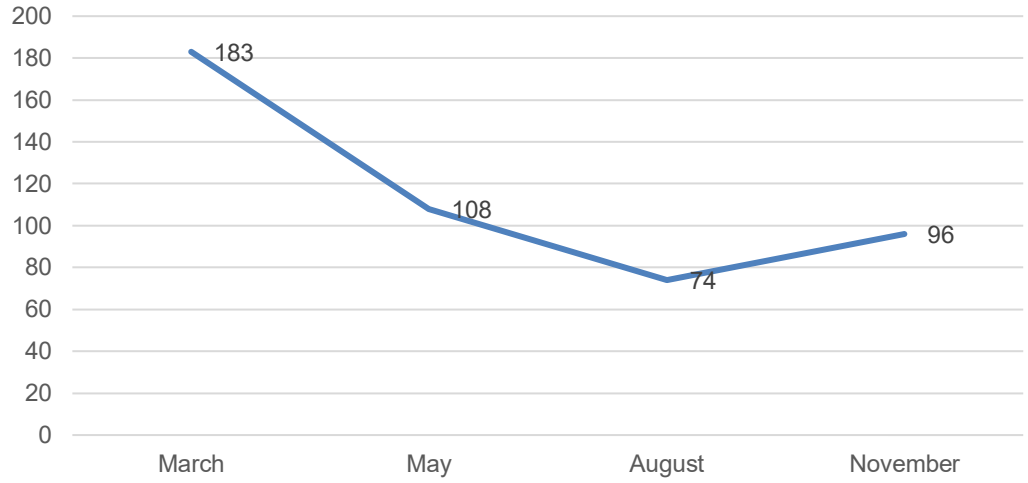


Figure 6. The figure shows the number of hits on searches with exact images from the non-compliant articles reported in Safety Gate in 2024.

3.2.2 Koala – follow-up of an article

In 2024, a koala toy was found to be non-compliant. In March 2025, a total of 75 offers (URL addresses) on 22 websites (e-commerce actors) that were marketing the product were identified through image recognition. The players were informed of the results in May and asked to remove the products from sale.

During follow-up checks in May, June and September, the number of offers gradually decreased: in May, 30 offers remained, in June 20 and in September 7. All offers that remained in September were from drop shipping web shops.

The study was based on the original 75 offers identified in March 2025, and no additional searches for new offers were carried out.

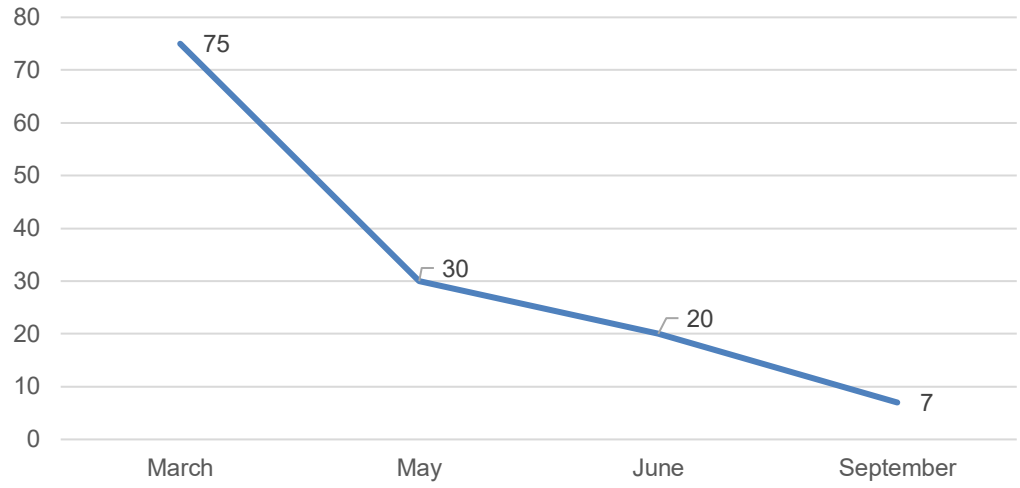


Figure 7. The figure shows the number of offers with koala toys that were marketed with the same images on different dates in 2025.

3.2.3 Analyses of similar articles

To investigate whether identical or similar products from different manufacturers showed similar non-compliances, analyses were carried out on five of these articles. We also included the results of our XRF analyses on four specimens of the koala. The results can be seen in Table 4 below. Note that all the products have different sellers/manufacturers even though they are marketed in a similar way.

Table 4 – Analyses of similar articles.

Article 2024	**Analysis 2025**	**Analysis results –** above thresholds
Push game		**All 6 contained restricted substances** lead[18] and cadmium
Jewellery - sunshine		**None contained restricted substances**
Dance mat		**All 6 contained restricted substances.** 6 contained lead. In 3 cases, the cord containing SCCP was also tested. In one cord there was also DEHP and DBP.

[18] Two of these articles contained lead above 85 percent, where an exemption may apply. The exemption is under revision, and the exemption is not really intended to be used for this type of articles.

Childrens camera		**4 out of 5 contained restricted substances.** 4 contained lead 2 contained cadmium 1 cord contained SCCP, DEHP and DBP
PVC mobile bag		**6 out of 7 contained restricted substances -** DEHP 1 also contained SCCP and cadmium
Koala		**All contained restricted substances** - lead and cadmium These were tested with XRF only

3.3 Enforcement measures

In all cases where we have analysed the articles, we have communicated the results of the inspections to the actors through inspection notices.

At Swedish companies, we demanded the correction of non-compliances, decided on environmental sanction fees and submitted reports of prosecution. Within the framework of the project, we decided on eight environmental sanction fees and filed nine charges with the police. We are obliged to take these measures in the event of non-compliances. Within the EU, we forward the cases to the competent Member State if necessary.

In the image search sections, we informed the online marketplaces about the articles we have found through image recognition, as well as the similarly analysed articles that contained restricted substances.

3.4 Measures by actors

After the companies were informed of the analysis results, all e-commerce actors removed the articles from sale.

In terms of image recognition of previously non-compliant articles (where the articles were not analysed), almost all articles were removed. One of the online marketplaces requested documentation from the sellers, and in cases where it was missing, the articles were removed. In three cases, other test results were available, but these did not include the components that had been analysed in this control. Therefore, these three articles were also removed by the online marketplace. Furthermore, online marketplaces also removed the similarly analysed articles that contained restricted substances.

4. Discussion

In our inspection projects, we use risk-based selection, which means that we select articles for inspection that we assess to have a high risk of containing hazardous substances. It cannot therefore be said that the results give a representative picture of the market because the sample is not random.

However, if we compare the results from this project with previous enforcement with a focus on e-commerce where we looked at the same type of articles, we can get a picture of regulatory compliance in different segments. What counts as a non-compliance is if we have found content of prohibited substances in the articles or if the labelling of the articles has deficiencies. The results show that there are major non-compliances with articles sold through both online marketplaces and drop shipping web shops.

4.1 Articles with restricted substances

Cheap electronics are the product group with the most non-compliances (lead in solders). This is followed by soft PVC plastic products such as toys, sports articles, interior design items, bags and shoes (phthalates, especially DEHP, and short-chain chlorinated paraffins), and jewellery, where we mainly find cadmium. These non-compliances follow a similar pattern to our previous inspection projects and inspections.

The substances have been banned for a long time in the EU but are still widely used in the manufacture of articles outside the EU. It is therefore of great importance that there are companies within the EU that have a proactive responsibility to ensure that the products meet the requirements of the legislation. The business model of selling via online marketplaces often means that such an actor is missing, which results in many articles containing dangerous and restricted substances.

4.2 Traceability

It can be noted that a comparison with the previous year's e-commerce project shows that marking with the CE mark and information on the manufacturer and importer have improved significantly in this year's project. One possible explanation for the fact that a larger proportion of articles are correctly labelled is the application of Regulation (EU) 2023/988 on general product safety (GPSR), which came into force on 13 December 2024 and which imposes requirements on, among other things, labelling and traceability.

When selling articles online, it is important that the traceability information provided on the website corresponds to the information contained on the product's labelling. A comparison of the identification data of the articles (e.g. article number and model number) between the information in online offers and the labelling of the actual articles showed that only about 30% in agreement.

The result further indicates that presence of Safety Gate does not necessarily lead to articles ceasing to be made available on the market. Similar articles labelled with different identification marks also had the same type of non-compliances linked to restrictive substances. This gives an indication that the labelling data is not to be fully trusted when it comes to articles sold by online marketplaces. There are also further questions about the reliability of the labelling information provided on products on the online marketplaces, as they themselves do not have any obligations to check if this information is correct.

4.3 Image search

Considering the extensive deficiencies in traceability, image search has been used as a method to identify identical or similar articles on the market. The use of image search and image recognition has proven to be a relatively effective tool for detecting continued sales of non-compliant articles that were reported to Safety Gate.

The results of the investigation of three different image search methods show that the articles are still made available on the market, even though they have been reported in Safety Gate. The presence of identical or similar articles from different sellers or manufacturers is of limited significance, since the identified non-compliances are essentially the same.

This shows the importance of online marketplaces not only checking the existence of the same articles based on article numbers, manufacturers or sellers, but also considering articles that may pose a corresponding risk. Very large online marketplaces (VLOPs) are subject to requirements for carrying out risk assessments. For other online marketplaces, there are no corresponding requirements, and there is generally no clear proactive responsibility. This means that a significant number of articles already reported as dangerous can continue to be made available on the market.

4.4 Direct imports to consumers without control steps

The requirement for manufacturers outside the EU to appoint an authorised representative aims to ensure that there is a responsible operator within the EU

before a product reaches the consumer. However, these representatives do not have a proactive responsibility, but their role is primarily to assist enforcement authorities with documentation and to work to ensure that discovered non-compliances are addressed.

Our experience shows that the system does not work satisfactorily. When we contact the authorised representatives for articles from manufacturers outside the EU, this only leads to action in about 35 percent of cases. In many cases, the information about the authorised representative has been found to be false, for example using false information, or there is no response at all.

All in all, there is a lack of an actor who takes truly proactive responsibility for articles from manufacturers outside the EU. Neither the authorised representatives nor the online marketplaces currently have such a responsibility. The question therefore remains: who should take proactive responsibility for product safety before the articles reach consumers?

For both online marketplaces and drop shipping web shops, the articles are usually shipped directly from the supplier to the consumer. The manufacturer is responsible for ensuring that the product is marked with contact information, CE marking and identification marking. The importer is responsible for ensuring that the articles are labelled with their contact details. Inspections show that articles shipped directly from companies outside the EU often lack the required contact details (usually importer details) as well as CE and identification markings. This is especially true for the drop shipping web shops that are considered importers and where this label is often missing.

Due to the new requirements in the GPSR regarding labelling, including contact information for manufacturers and the authorised representative, it can be stated that the requested marking is in many cases available on articles sold via online marketplaces. At the same time, there are uncertainties about the reliability of the label. It is not always clear which party is responsible for labelling the product, and sometimes the information provided to the authorised representative is incorrect.

As regards data on producers, the sub-project on similar articles indicates that this data may be incorrect. Alternatively, several manufacturers can use the same components where substance non-compliances have been identified. For almost all articles in each product group (see Table 4), labelling varied, for example by indicating different manufacturers. However, this can be questioned, as the products showed similar substance non-compliances linked to the same type of component.

4.5 Textiles

The fact that only one garment showed levels of a substance above the applicable limit value may have several explanations. One possible explanation is that the textile industry, including actors in so-called ultra fast fashion, has largely ceased the use of these substances. Instead, other substances that are not currently regulated, but which may be problematic from a chemical perspective, can be used.

The analyses carried out by Stockholm University on the same garment provide support for this assessment. In its analyses, Stockholm University has, through their screening method, also searched for substances other than those covered by the Chemicals Inspectorate's analyses. Several of the substances that were included in the university's screening were detected in the analysed garments.

The result can also be partly explained by statistical limitations. The range of clothing on the market platforms is extensive, and the results from a limited number of random samples cannot therefore be considered representative of the total range. In this project, we only tested textile materials that showed a low proportion of non-compliances. Other studies and in some cases our own instead point out that risk materials for the clothing industry may be PFAS in functional clothing, phthalates in shoes made of PVC (for example sandals) or plastic-printed shirts.

5. Conclusions

The project shows that it is common for articles sold via e-commerce not to meet the requirements of the chemical legislation. Online marketplaces and drop shipping web shops showed a higher rate of non-compliances compared to traditional web shops.

Furthermore, this year's project shows that there are extensive non-compliances in compliance with the rules on the authorised representative.

The same articles continue to be made available on the market despite being reported in Safety Gate. Our results also indicate that similar articles contain the same prohibited substances and actors need to assess risk articles and risk materials for the large proportion of non-compliant articles to be able to reduce articles.

Historically, there has been a lack of legislation regulating the traceability of articles, apart from electrical products and toys. However, with the introduction of GPSR, new requirements have been added, especially for e-commerce, to

strengthen traceability. This has also led to an increase in the proportion of formally correctly labelled articles. However, the enforcement shows that the labelling that exists, or the actors that are indicated, are often not correct. For example, there may be no authorised representatives, or the identification mark cannot be traced easily and reliably. This means that articles that at first glance appear to be correctly labelled and meet the requirements may in practice constitute non-compliant and potentially risky products.

This problem can again be linked to the lack of proactive responsibility on the part of both the authorised representatives and online marketplaces. The consequence is that the updated requirements risk being ineffective and instead create a false sense of security.

In summary, the results indicate that there is a need for a clearer and more effective regulatory framework that ensures that some actor takes proactive responsibility for the products' regulatory compliance before they reach the EU market. In view of the large influx of products, market surveillance measures alone are not considered sufficient to address the non-compliances that exist in e-commerce of products from outside the EU.

6. Advice to actors and consumers

6.1 Advice to web shops

Proactive work is needed to ensure that the products sold meet the requirements of chemical legislation. It is not enough to simply react to the non-compliances that authorities find during inspections.

Below are examples of what actors do, who rarely have non-compliances in terms of chemicals legislation, and which can serve as good examples.

- They are up to date on current legislation
- They set detailed written requirements for their suppliers
- Set chemical requirements for your suppliers - Swedish Chemicals Agency
- They use reliable and knowledgeable suppliers
- They have their own restricted lists
- They do chemical sampling analyses
- They request and review test reports
- They choose not to use risky materials
- They have a systematized way of working
- If your own skills are lacking, a consultant or industry association is used

Look at certain "risk categories and material". In our inspections, we often see non-compliances in cheap electronics (lead in solder points), soft plastic/PVC articles such as toys, sporting articles, interior design items, bags and shoes (phthalates, especially DEHP, and short-chain chlorinated paraffins). In jewellery, we often find cadmium or lead.

Monitor which items are reported on Safety Gate and make sure that you do not sell these items.

6.2 Advice online marketplaces

- Work more on removing the same (identical articles) that regulators find and that are in the Safety Gate. Here, the traceability of the articles needs to be improved.
- Similar articles also seem to have the same non-compliances as those in the point above. This means that the online marketplaces that are part of the Safety pledge or are large online marketplaces (VLOPs) should improve their procedures for acting against similar articles and thus ensure compliance with chemicals legislation.
- VLOP is required by the DSA to carry out risk assessments and could work on identifying risk materials (e.g. articles made of soft PVC plastic, electronics and black oxide jewellery) in the chemicals area and intensify the requirements for sellers, especially outside the EU.

6.3 Advice to consumers

Below is some advice for those who shop for articles on the internet. The advice is based on our experience from chemicals control.

Do you know what type of actor you are trading from; classic web shop, drop shipping web shop or marketplace platform? Please check how the different actors differ from each other in section 1.5 and Appendix 1.

Find out where the company that you buy products from is based. That information is often found at the bottom of the page of a web shop. If it's just an email address provided, you should be careful. On the online marketplace’s pages, you can see who the seller for each product is. Pay extra attention if the shop or seller on the online marketplace is located outside the EU and if the seller is not listed in the offer.

Products that are allowed to be sold in countries outside the EU may be banned in Sweden if, for example, they lack proper labelling or contain certain substances that are hazardous to health or the environment. Pay special attention to cheap

electronics (chargers, headphones, lighting), jewellery with partially black surfaces in Gothic or Bohemian style, and all kinds of articles made of soft PVC plastic.

Avoid buying products that are extremely cheap. You get what you pay for. There is a great risk that you will receive something of poorer quality than you intended, or a pirated copy.

7. Annexes

Annex 1. Different business models

Below are some different business models and e-commerce actors.

Online marketplace

An actor who is an intermediary between buyer and seller looks like the picture below (Figure 8). An online marketplace can be compared to a shopping mall, and the sellers are likened to the physical shops in the mall. The online marketplaces provide a platform and, for example, payment solutions (intermediaries), while the seller on the online marketplace is the one who sells the product to the buyer (both professionals and consumers). Generally, online marketplaces have no responsibility when it comes to product safety for the products, but that responsibility lies with each individual seller, who also sets the prices. The prerequisite is that it is clear who the seller is for each product. However, this disclaimer does not apply if it is unclear to the consumer who the seller is, in which case the online marketplace becomes the responsible seller.[19]

If an online marketplace becomes aware that a product is illegal, they have a reactive responsibility to ensure that the non-compliance is rectified or that the offer is removed.

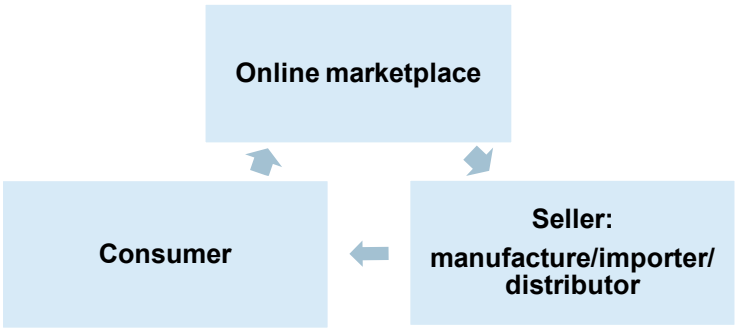


Figure 8. Model for sales using intermediaries (online marketplaces). The seller is the responsible actor.

Some online marketplaces take on greater responsibility than just intermediator, and are also responsible for warehousing, addressing, packaging, and shipping. If a marketplace performs two or more of these services, they can be considered responsible for the products and product safety as well. So called fulfilment

[19] Art.6 in Regulation (EU) 2022/2065 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act) - https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32022R2065

service providers. This applies to the 17 different EU legislations listed in the Market Surveillance Regulation. In the area of chemicals, this applies to the RoHS Directive and the Toy Safety Directive. See more information in section 1.4.2.

Classic web shop

In the classic linear supply chain, ownership of a product is transferred from one actor to another in a chain, see Figure 9.

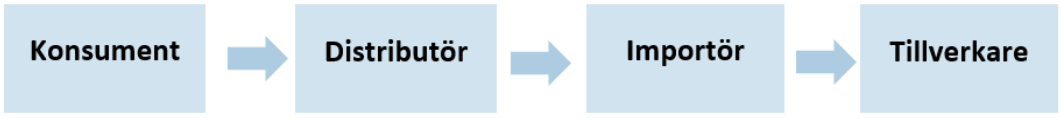


Figure 9. Classic supply chain.

If companies buy and sell according to this model online, we call them classic web shops.

The purchase contract is concluded with the web shop and the ownership of the product is transferred directly from the web shop to the buyer. The web shop is then the relevant operator responsible for compliance with the rules on provision.

Drop shipping web shop (without its own warehouse)

The term drop shipping has no legal definition but usually refers to a web shop selling products without having its own warehouse. There are several different sales solutions that are since there is some form of intermediary between buyers and sellers. A short summary is that from the customer's perspective, the website looks like a regular web shop. Behind the scenes, the solution is reminiscent of an online marketplace where there are intermediaries before the product reaches the consumer. Liability does not change because the operator does not have its own warehouse, which means that web shops, regardless of whether they have their own stock or not, are responsible for the products sold. The only exception is if another seller is listed for a product.

There are many variations of drop shipping solutions, one is that the products are with the supplier who ships the product directly to the customer. The stock balance can sometimes be directly linked to the supplier's stock status, which makes it look as if the product is in the web shop's own warehouse. Some that have this solution are the Bygghemma Group and H&M. This model is like the one that online marketplaces have, but the difference is that the web shop is listed as the seller and thus becomes responsible. There is no clear intermediary as in the case of the online marketplace – see Figure 10.

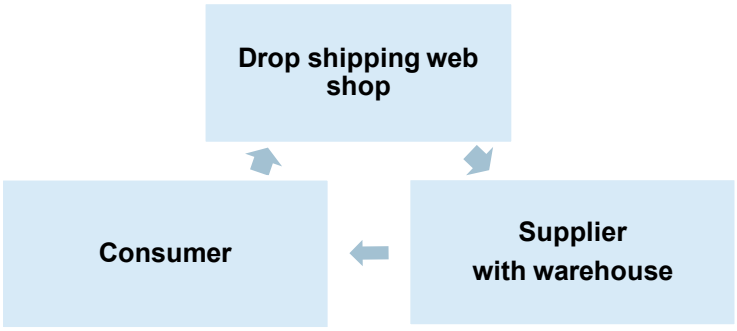
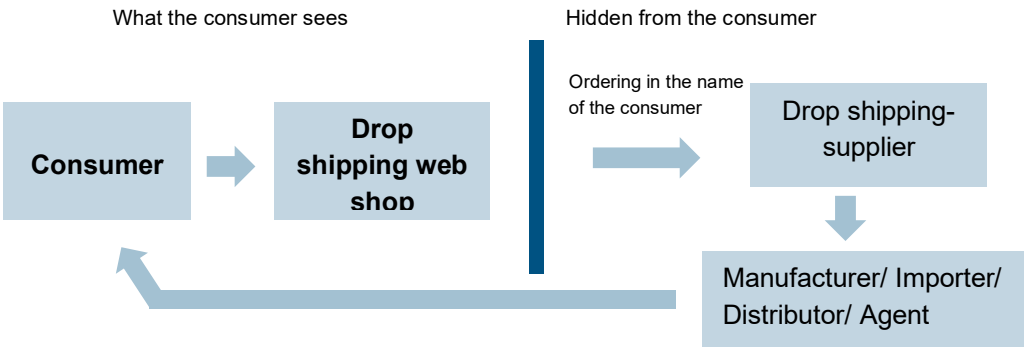


Figure 10. Model for selling using drop shipping, but without a clear intermediary. The web shop – drop shipping does not have its own warehouse. The web shop becomes the responsible party if the seller is not clearly stated on the page.

Another variant that is common with, usually smaller, web shops is to get help from a platform that helps to start up drop shipping web shops. There may be ready-made solutions and various drop shipping suppliers. The consumer orders a product, which the drop shipping web shop in turn orders in the consumer's name from the drop shipping provider (can be done automatically). The product is then shipped directly to the consumer from either the drop shipping supplier or from another company (manufacturer/importer/distributor) (see Figure 11). Dropshippers often focus on certain trending products in a few copies, and the web shops can be opened and closed quickly. The same products are usually also for sale on the online marketplaces.



Figue 11. Model for drop shipping web shops (web shop without its own warehouse). The steps after the drop shipping web shop are usually hidden from the consumer. The drop shipping web shop becomes a responsible player

These web shops are set up so that it looks like the drop shipping web shop is the seller. The steps following are usually hidden from the consumer. The customer perceives the products as the drop shipping web shops "own" because there is no information about the real seller. The prices are determined by the drop shipping

web shop, unlike the intermediary marketplace platform where the seller sets the price.

The Swedish Chemicals Agency assesses that drop shipping web shops become responsible for product safety because there is usually no information about the existence of another seller and who they are. The consumer gets the impression that it is the drop shipping web shop that they enter into a purchase agreement with. The Swedish Consumer Agency makes a similar assessment in a review of companies that use drop shipping. In chapter 3 of the report, you can read the following, among other things, about how the Swedish Consumer Agency views their responsibility:

> *The Swedish Consumer Agency considers that traders cannot avoid liability under the law of sale simply by describing themselves as intermediaries in the terms and conditions.*
>
> *Information that the website owner is not the actual seller is so important that it is not enough to provide it in terms and conditions of the contract.*
>
> *If the articles are sold on behalf of someone else, the contact details of that trader must be available. The information that must be provided is name, organization number, telephone number and address and e-mail address.*

Drop shipping supplier

When the web shop is ready, it needs to be filled with products, usually this is done via a drop shipping supplier. Here, the web shop gets access to different suppliers for a fee and can choose which products they want to offer in their web shop, without having to search for suppliers themselves and negotiate prices, supplier terms, shipping, etc. They can also quickly replace the products available in the web shop.

Some examples of supplier platforms are Oberlo, SaleHOO, AliExpress (Alidropship), Droshi, Printful, BigBuy, DHGate and Yakkofo.

Platforms specialized in helping web shops

The most common approach to setting up a drop shipping web shop is to use an e-commerce platform, such as Shopify, Quickweb shop or WooCommerce. These platforms have ready-made concepts (domain name, appearance, design, etc.) with "click and drag" function to easily create web shops, and for a fee, the web shop gets access to these concepts. The platforms also offer help with, for example, order management, payments, booking shipping, etc., through built-in features.

How to recognize the different actors?

For a consumer, it is easy to believe that a web shop with text in Swedish called something with ".se" is Swedish. Often, it can instead be a drop shipping web shop that can sometimes be based in another country. Below we give examples of characteristics of different actors, which can help identify the type of e-commerce web shop in question.

Classic web shop

Most often, the domain name is a .se address, although .com and .nu also occur, and the language is Swedish. However, this is not enough to conclude that it is a web shop that is behind it. Instead, we have some other distinguishing features:

- There is contact information for the company that runs the web shop, usually that information is at the bottom of the first page.
- All text is in Swedish or only a few languages, such as the Nordic languages.
- The images of the products are unique, unlike the generic images used in drop shipping web shops.
- Under the heading "About us" or similar, there is often more information about the company behind it, history, etc.
- Delivery times are often short, as the web shop has its own warehouse.
- In the information about terms and conditions, rights of withdrawal, delivery, etc., there is no mention of "third-party sales" or similar concepts.

Online marketplace

An online marketplace is usually characterized by:

- Many products and categories. There is a lot gathered here in one place. The number of products is because the online marketplaces have many different sellers.
- It is often possible to choose many different languages (100 – 150) and several different currencies for payment.
- Examples of online marketplaces include Amazon, AliExpress, TEMU, Shein, eBay, and CDON
- Sellers are shown on each product page
- Nowadays, even more traditional web shops sometimes also have an online marketplace section in their web shop where they convey products from other companies, such as Elgiganten, Stadium and Åhléns.

Drop shipping web shop (without its own warehouse)

A drop shipping web shop is usually characterized by:

- Often there are a smaller number of products and with a focus on a certain type of product, e.g. crisis preparedness products, kitchen gadgets, simple electronics. However, there are examples of the drop shipping shop that has a very heterogeneous assortment with many products of widely different kinds.
- Generic images that can also be found in other drop shipping web shops and on online marketplaces. Images and information about the products often come from a drop shipping supplier.
- The products are usually a little more expensive because they are purchased from other online actors, such as online marketplaces, which in turn sell the same product directly to consumers at a lower price. With the help of an image search, you can check whether the product is also sold elsewhere on the internet.
- Most of the time, it does not specify who is behind the website and the only contact information is an email address.
- Under the heading "Conditions" there are often long texts. It sometimes mentions "third-party sellers" or similar, or that the buyer becomes an importer.
- Drop shipping web shops often advertise on various social media sites.

Appendix 2. Substances analysed in the project

Table 3. The table shows substances that were analysed in the project and examples of legislation where the substance is restricted.

Substances **CAS No**	**Limit value and legislation reference** (note that some substances may be restricted in more places than listed below)
Benzyl butyl phthalate (BBP) 85-68-7	• RoHS- directive *0,1 % by weight* • Reach-förordningen, Annex XVII, post 51 (enbart leksaker) *0,1 % by weight* • Reach-regulation, Candidate list *0,1 % by weight*
Bis(2-ethylhexyl) phthalate (DEHP) 117-81-7	• RoHS- directive *0,1 % by weight* • Reach-regulation, Annex XVII, post 51 (enbart leksaker) *0,1 % by weight* • Reach-regulation, Candidate list *0,1 % by weight*
Dibutyl phthalate (DBP) 84-74-2	• RoHS- directive *0,1 % by weight* • Reach-regulation, Annex XVII, post 51 (enbart leksaker) *0,1 % by weight* • Reach-regulation, Candidate list *0,1 % by weight*
Di-n-octylphtalate (DNOP) 117-84-0	• Reach-regulation, Annex XVII, post 52 (enbart leksaker) *0,1 % by weight* • Reach-regulation, Candidate list *0,1 % by weight*
Diisodecylphtalate (DIDP) 26761-40-0	• RoHS- directive *0,1 % by weight* • Reach-regulation, Candidate list *0,1 % by weight*
Diisononylphtalate (DINP) 28553-12-0	• Reach-regulation, Annex XVII, post 52 (enbart leksaker) *0,1 % by weight*
Diisobutyl phthalate (DIBP) 84-69-5	• RoHS- directive *0,1 % by weight* • Reach-regulation, Annex XVII, post 51 (enbart leksaker) *0,1 % by weight* • Reach-regulation, Candidate list *0,1 % by weight*
Dihexyl phthalate (DnHP) 84-75-3	• Reach-regulation, Candidate list *0,1 % by weight*
Bis(2-methoxyethyl) phthalate (DMEP) 117-82-8	• Reach-regulation, Candidate list *0,1 % by weight*
Dipentyl phthalate (DPP) 131-18-0	• Reach-regulation, Candidate list *0,1 % by weight*

1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP) 68515-42-4	• Reach-regulation, Candidate list *0,1 % by weight*
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear 68515-50-4	• Reach-regulation, Candidate list *0,1 % by weight*
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) 71888-89-6	• Reach-regulation, Candidate list *0,1 % by weight*
1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters, with ≥ 0.3procent of dihexyl phthalate EC No. 201-559-5	• Reach-regulation, Candidate list *0,1 % by weight*
Lead 7439-92-1	• RoHS-directive *0,1 % by weight* • Reach-regulation, Annex XVII, punkt 63 *0,05 % by weight* • Reach-regulation, Candidate list *0,1 % by weight*
Cadmium 7440-43-9	• Reach-regulation, Annex XVII, p. 23 *0,01 % by weight* • Reach-regulation, Candidate list *0,1 % by weight* • RoHS-directive *0,01 % by weight*
Nickel 7440-02-0	• Reach-regulation, Annex XVII, p. 27 *0,5 µg/cm2/week*
Polycyclic aromatic hydrocarbons (PAH) Several different	• Reach-regulation, Annex XVII, p. 50 *1 mg/kg (varor)* *0,5 mg/kg (leksaker)*
Alkanes, C10-13, chlorinated (SCCP) 85535-84-8	• POPs-regulation *0,15 % by weight* • Reach-regulation, Candidate list *0,1 % by weight*

Annex 3 Controlled articles

The tables below show a summary of the companies and articles in the project. We have only carried out random checks of the companies' products and only analysed for certain substances. We have not checked that the articles meet the requirements of all the legislation to which they are subject.

Table 4. Analysed articles containing prohibited substances above concentration limits

Trading venue	Article	Substances
Online marketplaces		
Amazon.se	PVC väska	SCCP, DEHP
Amazon.se	Hörlurar	Lead, Cadmium, DEHP, SCCP
Amazon.se	Bikasun fiskbete	DEHP
Amazon.se	Mikikit Mini Stereo	Lead
Amazon.se	JeryWe Bohemiska turkosa kraghalsband	Cadmium
Amazon.se	Mjukt fiskbeteset, WASAGA	DEHP
Amazon.se	ifundom Skalle Huvud Ring	Cadmium
Amazon.se	PVC sandal	DEHP, DBP, Lead
AliExpress.com	Koala Original	Lead, Cadmium
AliExpress.com	Armband	Cadmium
AliExpress.com	Ring	Cadmium
AliExpress.com	Docka	Lead, Cadmium
AliExpress.com	PVC sandal	DBP
AliExpress.com	Smart watch	Lead, Cadmium
AliExpress.com	soft lure artificial bait blue	Cadmium, DEHP
AliExpress.com	Hörlurar	Lead, SCCP, DEHP
BigBuy.eu	Radio AM/FM	Lead
BigBuy.eu	Karaoke Mikrofon Hello Kitty	Lead, Cadmium
BigBuy.eu	Upleadlåsbar båt	DEHP
BigBuy.eu	Herring Police (plastic bag packaging)	DEHP
BigBuy.eu	Boxing gloves (plastic bag packaging)	DEHP, Cadmium, SCCP
DHGate.com	Wireless Mouse	DEHP, Lead, Cadmium

DHGate.com	Clip 4	SCCP, DEHP, Cadmium (Lead undantag över 85 %)
DHGate.com	Beats Studio Pro hörlurar	Lead, Cadmium, SCCP, DBP, DEHP
Etsy.com	Pärlarmband	Cadmium
Etsy.com	Ringar	Cadmium
Fyndiq.se	Yogaboll	DBP, SCCP
Fyndiq.se	Hörlurar	Lead, DEHP, SCCP
Fyndiq.se	Docka, sjöjungfru	DEHP
Fyndiq.se	Leksaksklaviatur	Lead
Fyndiq.se	Radiostyrd bil	Lead
Fyndiq.se	Fiskedrag, 5-pack	DEHP, Cadmium
Shein.se	Jewerly Earrings	Cadmium
Shein.se	Ring Heart and Cross	Cadmium
Shein.se	Wireless Stereo Headphone	Lead, Cadmium
Shein.se	Wireless Karaoke Speaker	Lead, Cadmium, SCCP, DEHP, DBP
Temu.com	U-shaped massage pillow	DEHP, SCCP
Temu.com	Children camera	Lead
Temu.com	Fiskbete PVC	DEHP
Temu.com	Fiskbete leadtyngder, PVC	DEHP, Cadmium
Temu.com	hörlurar kattöron	DEHP, DIBP, DBP, Cadmium, SCCP
Temu.com	LED ljusslinga	DEHP, Lead
Wish.com	Gothic bracelet	Cadmium
Wish.com	Jewellery bags	SCCP, DEHP, Cadmium
Wish.com	Swim Ring	DEHP
Wish.com	Cloud light	Lead
Wish.com	Bohemian ring	Cadmium
Web shops		
Cutetopia.se	The breathing friend Utter	Lead, Cadmium
Cutetopia.se	Anteckningsbok My Melody	Cadmium, DEHP
Kristallknuten.se	Hänge Lotusblomma	Cadmium
Petprylar.se	Tasstrimmer	Lead, SCCP, DBP, DEHP

Prylpelle.se	Moonlamp 3D LED Multicolor - Månlampa	Lead, Cadmium, DEHP
Sporttema.se	Barnboxningshandske	DEHP
Tassarna.se	Interaktiv kattboll	Lead
Drop shipping web shops		
BilligaBoden.se	Halkfria sandaler för barn	DBP
BilligaBoden.se	Berlockarmbandsats	Cadmium
BilligaBoden.se	Elektrisk fotslip	Lead, SCCP, DEHP
Bykylie.se	Regnbågsdörrmatta	SCCP
Bykylie.se	Humidifier Magic Shadow	Lead
Cirkle-sverige.se	Menstruationsvärmebälte / Warm palace belt	Lead, Cadmium
Cirkle-sverige.se	Armbandskit	Cadmium
EllaNova.se	Hårstylingapparat (Hot Air Styler)	Lead, Cadmium, DEHP
Kylvia.online	Bordslampa /Desk lamp	Lead
Montessori Toddlers	Pear Night Light	Lead
Nexora.se	Öronrengörare	Lead

Table 5. Analysed articles that did not contain restricted substances above concentration limits

Trading venue	**Article**
Online marketplace	
Aboutyou.se	Katy Perry Tådelare
Aboutyou.se	Bagmori Strandväska
Amazon.se	Cabby´s dollhouse - Magical Musical Ears
Amazon.se	Ghzste Upleadlåsbar simbassäng för bab
AliExpress.com	Upleadlåsbar boxningsdocka
AliExpress.com	PVC väska
BigBuy.eu	Headphones
BigBuy.eu	Vattenslang
BigBuy.eu	Split Ring Dino
BigBuy.eu	Mask Halloween
BigBuy.eu	Herrarmband Police

Dhgate.com	Bohemian armband
Dhgate.com	Bärbar baby pool
Fyndiq.se	Upleadlåsbar simring
Fyndiq.se	Skäggsmycke
Temu.com	Vikingahalsband
Temu.com	Ring pärla
Temu.com	Kattlek matta
Temu.com	Badboll
Shein.se	Fishing Lure
Shein.se	Floating bed
Shein.se	Pilates Yogaboll
Shein.se	Watermelon Swimming
Shein.se	Led Stripe Lights
Wish.com	Headphones
Web shops	
Cutetopia.se	Halsband med hjärta, 2 stycken
El Bastardo.se	Ring Bohem
El Bastardo.se	Ring Bohem svart sten
Kristallknuten.se	12 strängad Armbandssats med pärlor
Prylpelle.se	Flytande dryckeshållare - Badleksak för drycken
Riopool.se	Rio badboll
Riopool.se	Upleadlåsbar mini-båt
Riopool.se	Armpuffar Delfin
Runns.se	Halskedja God of War
Runns.se	Dinorobot
Sporttema.se	Fitnessboll
Vattenbutiken.se	Upleadlåsbar Krokodil
Vattenbutiken.se	Simring 40 cm grön
Vattenbutiken.se	Badanka dykare
Drop shipping web shop	
Bykylie.se	Babyhaklappar

Cirkle-sverige.se	Clutchväska
Hemmanord.se	Solcellsbelysning
Kidscookingclub.com	Diskpaket för små hjälpredor
kylvia.online	Ring

7.1.1 Textile

Table 7. Analysed textiles containing restricted substances above concentration limits

Trading venue	Article	Substances
Online marketplace		
Shein	2 wool socks	Nonylfenoletoxilat

Table 8. Analysed textiles that did not contain prohibited substances above concentration limits

Trading venue	Article
AliExpress.com	Low Waist Seamless Yoga Shorts
AliExpress.com	Women Scarf
AliExpress.com	Female Ice Silk Pyjamas
AliExpress.com	Women Skirts
AliExpress.com	5 Pairs Socks
AliExpress.com	Embroidered Jeans
AliExpress.com	Lautaro Spring black maxi leather dress
AliExpress.com	Cartoon Suit Sleepwear
AliExpress.com	Marvel Avengers T-Shirt
Amazon.se	Czemo sportkompressionsstrumpor för kvinnor och män
Amazon.se	Tony & Candice herrpyjamas lång klassisk satinpyjamas
Amazon.se	Merino Vandringsstrumpor
Amazon.se	Disney Bilar Pyjamas
Amazon.se	SINOPHANT Hög midja Leggings för kvinnor
Amazon.se	Minecraft t-tröja för pojkar,

Amazon.se	Bienzoe Flicka Denim Shorts
Amazon.se	TeysHa Kashmir Cardigan
Amazon.se	Tofflor Män Läder ESTRO
Amazon.se	Agoky herr motorcykel läderbyxor
Shein.se	Satin Pyjamasset
Shein.se	TEENAGE MUTANT NINJA TURTLES kortärmad T-shirt
Shein.se	Pyjamasset enhörning
Shein.se	Tween jeansshorts
Shein.se	Halsdukssjal
Shein.se	Yoga Flare Byxa
Shein.se	Streecool Kids Tween Girl Casual Gröna byxor
Shein.se	Dragkedja och utsvängda ben Casual Byxor 2-delat set,
Shein.se	2st/set fotbollströja
Stuffweb shop Online Group AB	Stödstrumpor Sports Active
Temu.com	Kvinnors Flätade Platta Sandaler
Temu.com	Svarta jeansshorts för kvinnor
Temu.com	Herrskjorta med korta ärmar
Temu.com	SHOWTLY 100% ren bomullsjumpsuit,
Temu.com	Boxershorts
Temu.com	Barnens sommarkarikatyr Pajamasats,
Temu.com	Yoga Sportleggings
Temu.com	Vintervarma Stickade Strumpor för Kvinnor
Temu.com	Enfärgad Scarf
Temu.com	Stretchjeans För Pojkar
Temu.com	1 Par Kompressionsstrumpor
Wish.com	6 Colors Short Sleeve T Shirts Shorts Suits For Children 100-150cm
Wish.com	Kvinnor Jean Shorts

Wish.com	Long-Sleeved bodysuits
Wish.com	Women's Summer Casual Shorts
Wish.com	Women's Fashion Jeans
Wish.com	Solid color basic scarf
Wish.com	1-5 Pairs of Women's Wool Socks
Wish.com	Half Turtleneck Wool Sweater
Wish.com	2021 T-shirt Kids Cool Letter Graphic Tee

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