Kemikalieinspektionen

ENFORCEMENT 4/25

Enforcement of e-commerce articles 2024

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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.

The Swedish Chemicals Agency.
Number: 511 506

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 a enforcement project on articles sold online. The project was carried out by the Swedish Chemicals Agency's enforcement department. Daniel Ahlström and Karin Rumar have been project managers. Karina Zaluska and Malin Stenström have also participated in the project.

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Summary

Internet sales are increasing rapidly and for market surveillance authorities this poses special challenges and requires new ways of exercising enforcement. Controls needs to be carried out on products and articles sold not only by domestic companies but also by companies based in other countries, within and outside the EU. Enforcement authorities within Authorities within Europe need to cooperate more closely than before and also work with new methods.

In the project, we controlled a total of 84 products – toys, jewelry, electronics and soft plastic products – purchased from 23 different e-commerce actors. The results show that the products purchased from marketplaces had the most non-compliances (62 percent), followed by drop shipping stores (55 percent) and classic web shops (25 percent). One explanation for the results is that when importing into EU, there is not always an actor within EU that check EU compliance of the products before they reach the buyer.

Common non-compliances were excessive levels of lead in electrical products, cadmium in jewelry, and short-chain chlorinated paraffins and phthalates in soft plastic materials in all kinds of articles.

All online actors removed non-compliant articles after they were informed of the non-compliances.

The results show a low level of compliance, especially for products purchased through web shops and platforms that use drop shipping. Among companies that engage in drop shipping, there seems to be a perception that they only mediate the products and are therefore not responsible for the products, despite the lack of information on who is the responsible seller on the product page (name and address details). As long as there is no information about who is the seller of a product, the Swedish Chemicals Agency consider the actor that offers the product to consumers as responsible.

The results presented in this report are not based on a random sample and therefore do not reflect the entire market. The selection of samples is based on experiences with restricted products from previous enforcement.

1. Introduction

The section describes which definitions are a 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	A form of electronic commerce, where a seller sells products or services directly to a buyer via the internet.
Drop shipping	A form of e-commerce where the party entering into an agreement with the buyer does not have its own inventory.
Online platform	A service provider (intermediary) that enables sellers to sell products directly to customers via an online platform. An online platform can be equated to a shopping mall where the sellers of the products correspond to the stores. The online platform should indicate who is the seller for each product. Unlike web shop drop shipping, it is the individual seller who sets the price of the product. Online platform include the word "marketplace".
Classic web shop	This is the traditional form of e-commerce. The company behind the web shop owns the products that are sold. They usually have their own warehouses. They are therefore also responsible for product safety. In this report, we do not include online platforms in the term web shop.
Drop shipping store (web shop without own inventory)	Drop shipping works in such a way that the web shop chooses which products to sell from one or more drop shipping suppliers and posts them in its own web shop. A customer buys a product from the web shop, which in turn sends an order to the supplier in the customer's name. The supplier takes care of all warehousing, packaging and shipping. The customer sees no other actor than the web shop and, unlike online platforms, the web shop sets the price for each product. For these reasons, the Swedish Chemicals Agency believes that web shop that have a drop shipping business as model have the same responsibility as a classic web shop.
Drop shipping supplier	Supplier specialising in a product range for drop shipping stores. It is also common for online platforms to act as drop shipping suppliers.
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.
Platform that facilitates drop shipping	E-commerce platform that makes it easier for companies to set up web shops. Some specialize in facilitating drop shipping with ready-made payment solutions. They collaborate with drop shipping suppliers who provide images, information about the products, etc. on their platform.
XRF	X-Ray Fluorescence. With test instruments based on this technology, you can use X-ray radiation to measure which elements are present in the surface of a material and approximately how much of the substance the material consists of.
Article	An object that during production is given a specific shape, surface or design which determines its function to a greater extent than its chemical composition. Examples are toys, electronics, interior design items, jewelry, etc.

Economical operator (actor)	Definition in Article 3 of the Market Surveillance Regulation (EU) 2019/1020: Economic operator 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 comprehensive is used for all types of online actors such as classic web shops, drop shipping stores, online platforms
Classic actors	There are some differences in the definitions of these terms in the different legislations. The meaning of articles in this report: - Manufacturer – manufactures the articles or puts their own name on the articles - Importer – brings the articles into the EU - Distributor – suppliers within the EU
Safety Gate and Safety Gate notifications	The EU's system for alerts on dangerous consumer products, where European authorities submit notifications to Safety Gate. Each notification contains information about the dangerous product, the risks identified, 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 in response to non-compliances found by authorities. Examples of proactive measures can be: - Systematic approach to product safety - Staying up to date with current legislation - Setting detailed written requirements for suppliers (including examples of substances that should not be present in certain materials) - Collaborating with reliable and knowledgeable suppliers - Having your own restriction lists - Performing chemical sample analyses - Reviewing test reports - Eliminating risk materials
Reactive responsibility	Non-compliances are corrected when they are discovered. A responsibility that online platforms have

1.2 That's why we're implementing an e-commerce project

Enforcement of e-commerce is a high priority within the authority, as we see increased e-commerce and a higher degree of non-compliances in products sold online. Both the government and the EU signal that the area is important to control. We therefore have the ambition to annually carry out enforcement of products sold via e-commerce actors

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1.3 Current chemical regulations in this project

The legislation below is relevant to this project.

1.3.1 Reach-regulation ((EC) No 1907/2006)

Reach stands for Registration, Evaluation, Authorisation 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 that restrict certain uses of substances that pose an unacceptable risk.

1.3.2 POPs-regulation (EU No 2019/1021)

POP stands for Persistent Organic Pollutants. The POP Regulation[1] prohibits the placing on the market and use of a number of substances that are persistent and can harm the environment and humans at low concentrations. Examples of restrictions 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.* RoHS-directive[2] is a product-specific directive for electrical and electronic products that restricts the use of certain metals, flame retardants [3] and phthalates. The directive includes requirements for products to be labelled. The CE mark must show that the manufacturer certifies that the requirements of specific EU legislation are met, and the contact details must show which companies are responsible for the product. For traceability, there should also be an ID marking, for example an EAN code or an article number.

1.3.4 Toys safety directive (2009/48/EG)

The EU Toy Safety Directive[4] contains several requirements for the chemical content of toys. These include limits for the amount of certain metals that can leak out, restrictions on the content of CMR substances (substances that can cause cancer, damage heredity or the ability to reproduce) and perfumes. With our XRF

[1] Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants

[2] 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).

[3] Chemical compound used to make ignition of a material more difficult or reduce the spread of fire

[4] 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

screening instrument[5], we check whether the restricted metals are present in the toys. As in the RoHS Directive, the Toy Directive contains labelling requirements.

1.4 Other relevant legislation

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

1.4.1 Regulation on a Single Market For Digital Services (EU) 2022/2065 (DSA)

The EU's regulation on a single market for digital services (Digital Service Act - DSA) entered into force in full on 17 February 2024. The aim is to ensure that the digital environment within the EU is safe, predictable and trustworthy. The aim of the rules is to prevent illegal and harmful activities online and the spread of disinformation. The Swedish Post and Telecom Agency is the national coordinator for the rules and, together with the Swedish Consumer Agency and the Swedish Media Authority, is responsible for enforcing and monitoring compliance with the rules in Sweden. The Swedish Chemicals Agency has no enforcement responsibility for the regulation. However, there are requirements for online platforms, such as the requirement to remove illegal content, that information about sellers must be available for each product on the website, etc.

1.4.2 Regulation (EU) 2019/1020 on market surveillance and compliance of products

Within the EU, there is a market surveillance regulation with harmonised provisions on market surveillance[6]. The regulation addresses problems with e-commerce and introduces new provisions on measures relating to e-commerce.

The requirement that products may not be placed on the market in certain cases without a responsible economic operator established in the Union is new in the Market Surveillance Regulation. However, this new requirement only applies to products covered by the RoHS and Toys Directives. The requirement is not present for other chemicals legislation such as the REACH, CLP and POPs Regulations. Fulfilment service provider is defined in Article 3(1):

[5] 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.
[6] 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.

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

Online platforms can have several different roles. In cases where they only mediate products, they are not covered by the new provision. However, if they take greater responsibility for the products as defined above, they become responsible economic operators.

The European Commission has issued a notice on guidelines for Article 4, which 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 may not be sold unless the manufacturer has arranged an EU representative.

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 picture, there are two types: web shops and online platforms. Web shops can be divided into classic web shops and web shops that use drop shipping (e-commerce without their own warehouse).

1. **Web shop**
    a. Classic web shop with their own warehouse
    b. Web shop - drop shipping (does not have their own warehouse, but the products are shipped directly from a third party)
2. **Online platform**

Annex 1 contains more information about how the different models work. The responsibility for product safety differs between the different models. Our assessment is that web shops are responsible regardless of whether they are involved in drop shipping or not. The reason is that it must be clear who the actual seller is. If no other seller is specified, the web shop becomes responsible. The only actor that is exempt from proactive liability are online platforms that only

mediate other sellers' products. The online platform can be equated with a mall and the sellers with physical stores in the mall. The seller then becomes the responsible operator and the seller's contact details must be provided on the online platforms. Below is a summary of the proactive responsibility.

Responsible for proactive product safety:

- Classic web shops that sell products and have their own warehouse
- Web shops that sell products via the drop shipping business model and do not have their own warehouse (drop shipping stores)
- Sellers that sell products on online platforms
- Online platforms are considered traders when they sell products under their own name or the seller's name is not clearly stated
- Platforms that act as fulfilment service providers[7]

Responsible for reactive product safety:

- Online platforms in their role as intermediaries.

Online platforms are not liable by default, but when a defective product is discovered, the online platform should remove or disable access to the products with illegal content.

2. Method

2.1 Selection of companies and articles

In this project, we focused on actors who only operate in the e-commerce market, a total of 46 actors.

In the project, we wanted to include the articles that we often find in e-commerce and that have previously often had non-compliances in relation to regulations on chemicals in articles. Articles made of soft plastic (including toys), cheap electronics (such as USB chargers and headphones), and jewelry (usually with a dark oxidized surface).

2.2 Selection of substances for analysis

We have mainly focused on checking compliance with the substances that are restricted in 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),

[7] any natural or legal person offering, in the course of commercial activity, at least two of the following services: warehousing, packaging, addressing and dispatching, without having ownership of the products involved

phthalates (both restricted 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 that were tested are shown in Table 1.

Table 1. Which substances were analysed in different articles.

Articles	Substances
Articles of PVC or other soft plastic	Phthalates, short-chain chlorinated paraffins (SCCPs), medium-chain chlorinated paraffins (MCCPs), polycyclic aromatic hydrocarbons (PAHs)
Jewelry	Lead, cadmium and nickel
Electrical products	Lead, cadmium, phthalates, brominated flame retardants (PBB, PBDE and HBCDD), medium chain chlorinated paraffins (MCCP)
Toys	Metals regulated in the Toy Directive have been screened with XRF

2.3 Control of labels

According to the RoHS Directive and the Toys Directive, electrical products and toys must be marked with the CE marking, contact address of the manufacturer and importer, and ID marking (for example, article number, type number, batch number). We reviewed the marking on all electrical products and toys.

2.4 Our approach

In the spring of 2024, we purchased a total of 84 different articles from 23 different e-commerce actors of the types of online platforms, and web shops (with or without their own warehouse). In addition to these 23 actors, we inspected 13 sellers and EU representatives on online platforms.

When the articles were delivered, we checked the labeling and performed an initial screening with our XRF instrument. 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.

2.5 Subproject – image search

By performing an image search on articles that had non-compliances in previous years market control, we found similar articles that were still being sold and where exactly the same image was used by the e-commerce actors. The actors were informed about the results of the image search and of previous analysis results and were given the opportunity to comment. We did not conduct any analyses on these articles but referred to previous analysis results and Safety Gate notifications. 10 actors and 52 articles were checked in this way in the sub-project.

3. Results

Below are presented the results of the analysis; content of restricted substances divided by type of company and type of product. We also report on the non-compliances we found in our inspection of labelling, as well as the measures taken by the companies and the Swedish Chemicals Agency. Appendix 2 lists all products that were reviewed in the project.

3.1 Content of restricted substances

Of the 84 products analyzed, 47 (56 percent) contained excessive levels of restricted substances. In 6 products (7 percent), restricted substances were found below the content limit or searched for substances that are not restricted for that product type. In 31 products (37 percent), we did not find any of the searched substances. See Figure 1

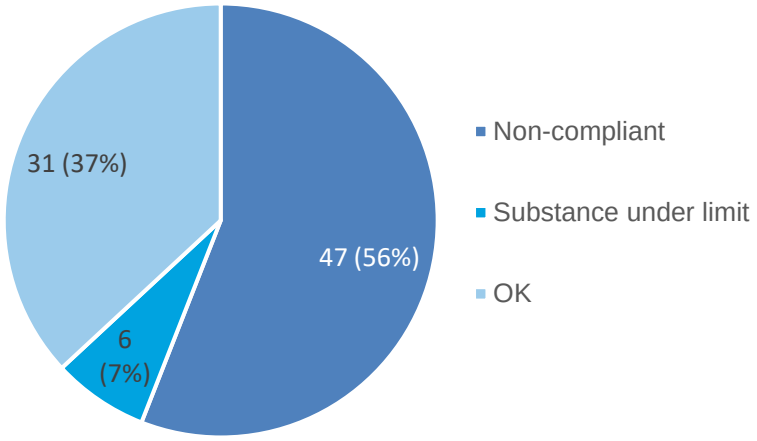


Figure 1. The figure shows the number of articles that contained restricted substances above the limit value, articles that contained restricted substances below the content limit or substances that are not restricted for that type of articles, and articles where we did not find any of the substances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

In comparison between different actors (Figure 2), it is seen that online platforms had the highest proportion of articles, 62 percent, with restricted substances above the legal limit. This was followed by drop shipping stores (web shop drop shipping) with 58 percent, and classic web shops with 25 percent.

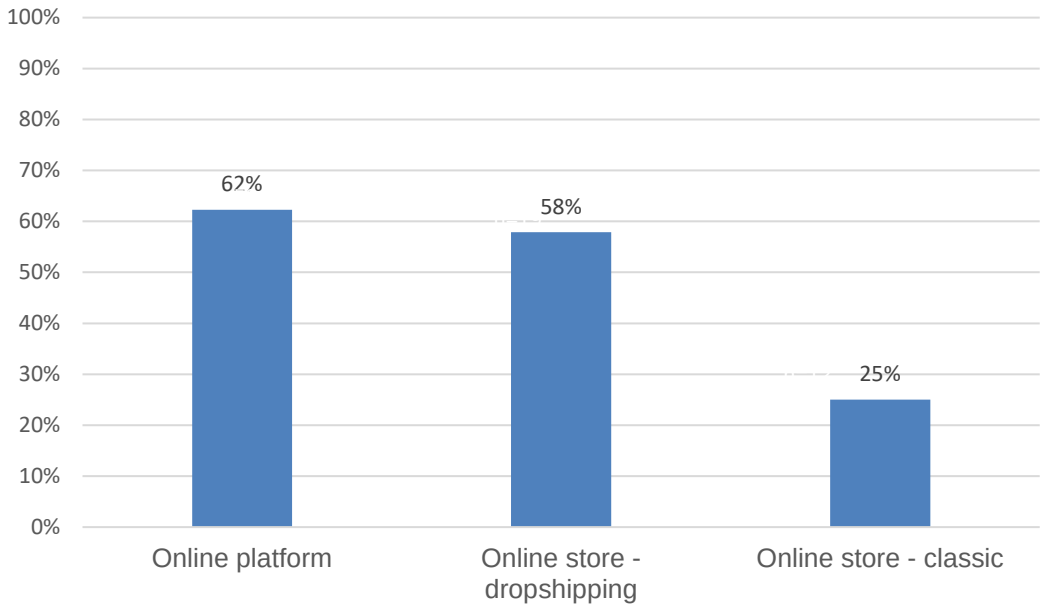


Figure 2. The figure shows the proportion of different e-commerce actors' articles that contain restricted substances above limit values (n stands for the total number of analysed articles per category).

The proportion of articles containing excessive levels of restricted substances differed between different product categories (Figure 3). Electrical products had the most non-compliances, with 70 percent (24 out of 34) of the articles containing excessive levels of restricted substances. This group mainly included headphones, simple lamps, USB chargers and other small electronics.

60 percent of the checked sports and leisure articles had excessive levels of restricted substances (3 out of 5). The sports and leisure articles consisted of exercise equipment such as a yoga ball, jump rope, bicycle handles, dog trimmers and an inflatable chair.

45 percent of the checked toys had excessive levels of restricted substances (5 out of 11). This group included dolls, electric toys and inflatable toys.

The clothing, shoes and accessories category mainly included jewelry with a dark oxidised surface and some plastic bags made of PVC. No textiles were tested in the project. 42 percent (14 out of 33) of these products contained restricted substances above the limit value.

Only one product in the construction and interior design category was analyzed in the project and this shower curtain did not contain any substances above the limit values.

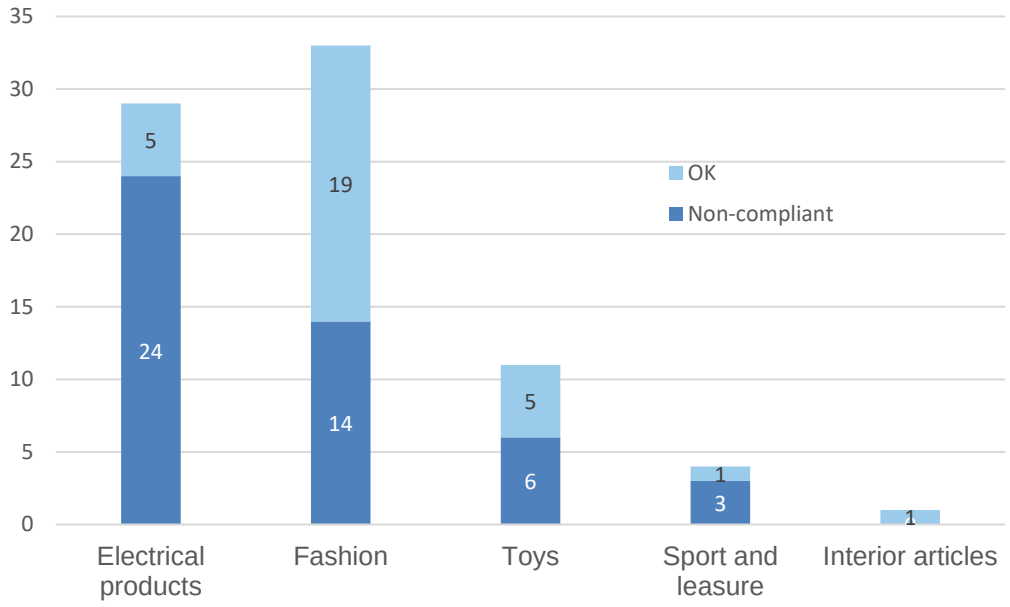


Figure 3. The figure shows the proportion of different product groups that contain substances above the limit value.

The high levels of restricted substances were mainly linked to the RoHS Directive, for example too high a content of lead in solders. Of the articles checked, 73 percent (30 out of 41) had non-compliances linked to the RoHS Directive. For the REACH and POPs regulations, the corresponding proportion was 41 (16 out of 39) and 37 (16 out of 43) percent, respectively. No restricted substances were found during XRF screening of the 11 toys checked under the Toys Directive. However, there were non-compliances regarding other chemical legislation such as RoHS, REACH and POPs - see Figure 4. Please note that a product can be subject to multiple legislation.

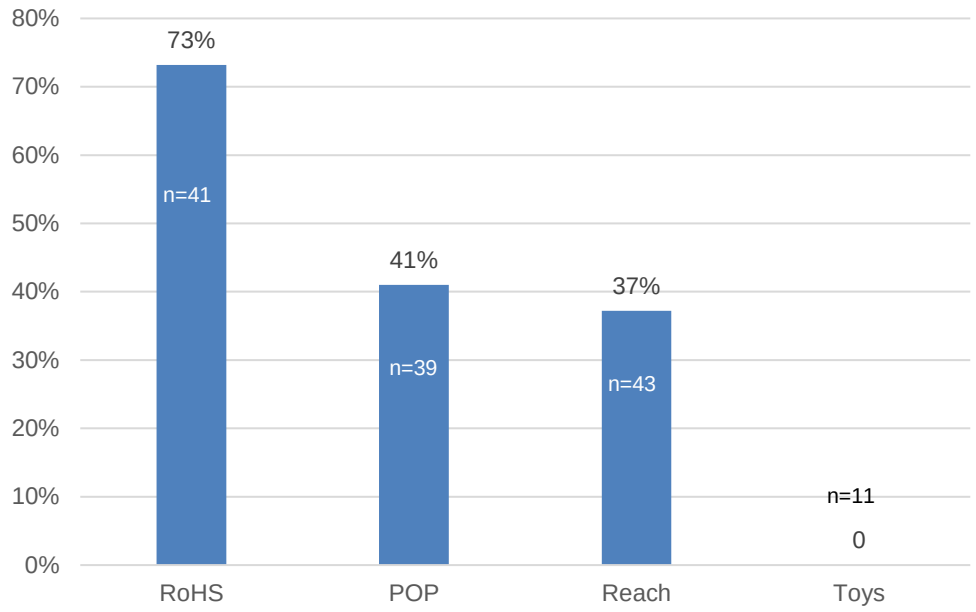


Figure 4. The figure shows how the proportion of prohibited substances in the controlled articles is distributed across different legislations (n stands for the total number of controlled articles per category).

3.1.1 What prohibited substances were found?

Cadmium was found in 12 pieces of jewelry with a dark oxidised surface.

Soft plastic (mainly PVC) is found in most categories of articles – shoes, toys, electronics, interior design and sporting articles. The prohibited substances we found in this type of material were mainly short-chain chlorinated paraffins (SCCPs) and the phthalates DEHP, DBP and DIBP – in 16 and 20 items respectively. We also found nine items with lead in plastic.

In addition to phthalates and short-chain chlorinated paraffins, the electronics also contained lead in solder points (47 items) and in some cases cadmium (10 items).

Facts about substances found in product analyses

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

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 persistent, do not break down in nature and are suspected of being carcinogenic.

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

3.2 Non-compliance labelling

We reviewed the labelling of 33 electrical products and 11 toys. CE marking was missing on 10 products (22 percent) and contact details for the manufacturer and/or importer were missing for 28 of the products (62 percent). Traceability of the products is provided in the ID marking and was missing for 17 of the products (38 percent). See Figure 5. Please note that a product can have multiple labelling non-compliances.

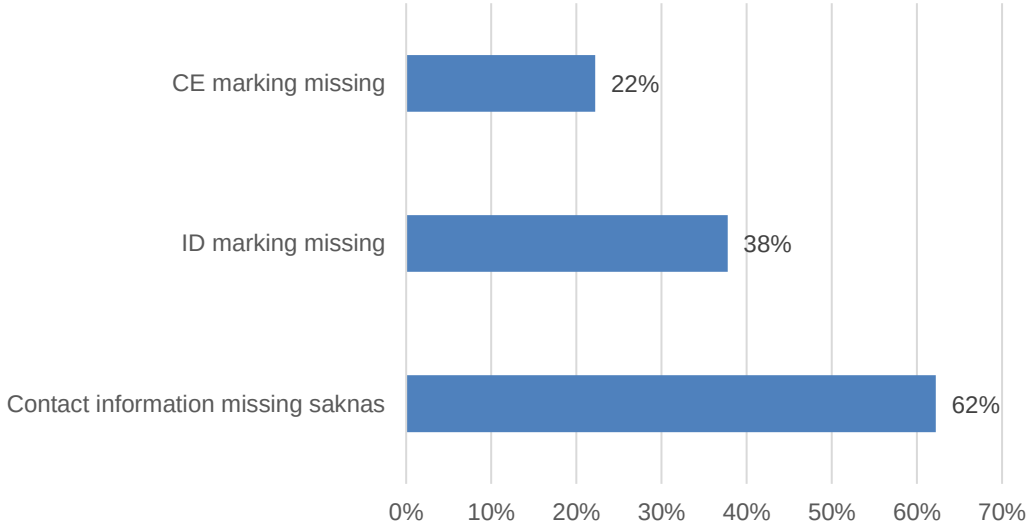


Figure 5. The figure shows the proportion of non-compliances in the labeling of 45 controlled products (toys and electronics).

3.3 Manufacturer's EU representative

17 of the 33 product laws in the EU require that if a company outside the EU sells articles on the EU market, there must be an EU representative for the manufacturer. This rule is set out in Article 4 of the Market Surveillance Regulation. In the chemicals sector, this applies to the rules for electronics (RoHS) and toys (Toys Directive). The EU representative is responsible for ensuring that the product complies with the legislation and that relevant documents are available, such as the EU declaration of conformity and technical documentation.

The rules on the EU representative were reviewed for 19 products from six online platforms. The information on the EU representative must be on the label and was missing for eight products. 11 of the products had an EU representative on the label. When asked about the respective EU representative, three responded that the

information was incorrect, i.e. that they were not the EU representative for that particular product. In three of the cases, the information was correct and for five products we have not received any response from the EU representative.

3.4 Subproject image search

When searching for previously checked articles (52 articles) that had non-compliances, it was discovered that identical articles were still being sold. After contacting the online platforms concerned, they all removed the articles we informed about. See more information about what the sub-project was about in section 2.5.

3.5 Enforcement measures

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

We require Swedish companies to correct non-compliances, decide on environmental penalty fees and file criminal charges. Within the framework of the project, we decided on two environmental penalty fees and filed two criminal charges with the police. Measures that we are obliged to take in the event of violations. Within the EU, we forward the cases to the competent member state if necessary.

3.6 Actions from e-commerce actors

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

4. Discussion

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

However, if we compare the results from this project with previous inspections focusing 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 labeling of the articles has non-compliances.

The results show that there are major non-compliances with articles sold via online platforms and drop shipping stores.

4.1 Articles with restricted substances

Cheap electronics are the product group that has by far the most non-compliances (lead in solder points), which we have also seen in previous projects. This is followed by soft plastic/PVC articles such as toys, sporting articles, interior design items, bags and shoes (phthalates, especially DEHP, and short-chain chlorinated paraffins), and jewelry where we mainly find cadmium but sometimes also lead.

In the last two projects, drop shipping stores have been higher in terms of the percentage of defects 72 percent [8] respective 77 percent [9].

In this year's project, the proportion of non-compliances was lower for drop shipping stores (55 percent). A likely reason for this result is that the proportion of inspected electronics was higher in the previous projects, and electronics is the product type where the most non-compliances are usually found in the enforcement of the Swedish Chemicals Agency. Online platforms and drop shipping stores generally have a higher proportion of non-compliances than classic web shops.

4.2 Image search

Using image search and image recognition proved to be a relatively effective tool for identifying continued sales of previously checked products that had non-compliances and had been reported to Safety Gate. Even though most actors choose to remove the products, proactive work is lacking. The legislation does not include mandatory responsibility for online platforms in terms of proactive work (see definition in the glossary).

The hope is that online platforms will become better at identifying previously checked non-compliant products themselves. This is because the new Product Safety Regulation (GPSR) that came into force on 13 December 2024 requires a certain proactive responsibility for online platforms. For example, they must scan identical deficient products from Safety Gate that may be sold by other sellers on their platforms. Furthermore, the largest platforms (VLOP) must carry out risk assessments of deficient products according to the DSA regulation.

4.3 Direct import to consumers without control steps

Consumers directly importing articles from countries outside the EU via drop shipping have become increasingly common. When products are imported directly by consumers, there is no company behind that is responsible for ensuring that the

[8] Tillsyn 3/23: Tillsyn av e-handel varor 2022 - Kemikalieinspektionen
[9] Tillsyn 6/24: Tillsyn av e-handel varor 2023 - Kemikalieinspektionen

articles comply with the regulations. This increases the risk that products contain restricted substances that can have harmful consequences for both people and the environment. This is something we see in the results of our enforcement of products sold via e-commerce.

The requirement for a manufacturer outside the EU to have an EU representative means that there must be a responsible actor within the EU before the product reaches the consumer. In the chemicals area, this requirement applies to products covered by the Toys Directive and the RoHS Directive. The results of this enforcement project show that there are non-compliances in terms of compliance with Article 4 of the Market Surveillance Regulation.

For both online platforms and drop shipping stores, the articles are sent directly from the supplier to the consumer. The manufacturer has a responsibility to label the articles with their contact details, a CE mark and an ID mark. Importers have a responsibility to label the products with their contact details. During inspections, we see that articles that come directly from companies outside the EU often lack contact information, CE marking and ID marking.

5. Conclusions

The project shows that it is common for products sold via e-commerce not to meet the requirements of chemical legislation. Online platforms and drop shipping stores had a higher percentage of non-compliances than classic web shops.

Many of the companies and private persons who run drop shipping stores (web shops without their own warehouse) and who we encountered in the project often beliefs that they are not responsible for the products they sell. Consumer legislation requires that it has to be clear who sells the product. There must be a name and contact details for this seller for each product, and it is not enough to write this in the general terms and conditions of the contract. The drop shipping stores we checked give the customer the impression that it is the store's own products that are being sold and that it is the store that you are entering into a contract with when you shop. In our assessment, this means that the drop shipping store becomes a responsible economic operator and has the same responsibility for, for example, product safety as a classic web shop.

The requirement for an EU representative in the EU for manufacturers outside the EU exists for toys and electronics. This year's project shows that there are major non-compliances towards the regulation on EU representatives.

6. Advice to businesses and consumers

6.1 Advice for web shops

Proactive work is needed to ensure that the products you sell 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, which rarely have non-compliances in terms of chemical legislation, and which can serve as good examples.

- They are up to date with current legislation
- They set detailed written requirements for their suppliers
- Set chemical requirements for your suppliers
- They use reliable and knowledgeable suppliers
- They have their own restriction lists
- They perform chemical sample analyses
- They request and review test reports (it is important to also include solder points that connect to different parts)
- They choose to eliminate risky materials
- They have a systematic working method
- If in-house expertise is lacking, a consultant or industry association is used.

Pay special attention to certain “risky articles”. In our inspections, we often see non-compliances in cheap electronics (lead in solder points), articles made of soft plastic/PVC such as toys, sports articles, interior design items, bags and shoes (phthalates, especially DEHP, and short-chain chlorinated paraffins). In jewelry, we often find cadmium or lead.

As a web shop, you can receive Safety Gate notifications so that you do not sell these non-compliant articles.

6.2 Advice to consumers

Below are some tips for those of you who buy articles online. The tips are based on our experience from chemical enforcement.

Do you know what type of actor you are buying from; a classic web shop, a drop shipping store or an online platform? Please check how the different actors differ from each other in section 1.6

Find out where the company you are buying products from is based. This information is often found at the bottom of the page of a web shop. If only an

email address is given, you should be careful. On the pages of the online platforms, you can see who the seller of each product is. Be extra careful if the store or seller on the online platform is located outside the EU.

Products that are allowed to be sold in countries outside the EU may be prohibited in Sweden if, for example, they lack correct labeling or contain certain substances that are hazardous to health or the environment. Be especially careful of cheap electronics (chargers, headphones, lighting), jewelry with partially black surfaces in a Gothic or Bohemian style, and all types of articles made of soft PVC plastic.

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

7. Annexes

Annex 1. Different business models

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

Online platform

An actor who is an intermediary between buyers and sellers looks like the picture below (Figure 6). An online platform can be compared to a shopping mall and the sellers are compared to the stores in the mall. The online platforms provide a platform and, for example, payment solutions (mediate), while the seller on the online platform is the one who sells the product to the buyer (both professionals and consumers). Generally, online platforms have no responsibility for the product safety of the products; this responsibility lies with each individual seller, who also sets the prices. The prerequisite is that it is clearly stated who the seller is for each item. However, this exemption from liability (articles 6 in DSA) does not apply if it is unclear to the consumer who the seller is, in which case the online platform becomes the responsible seller.

If an online platform becomes aware that a product is illegal, they have a reactive responsibility to either fix the non-compliance or remove the offer.

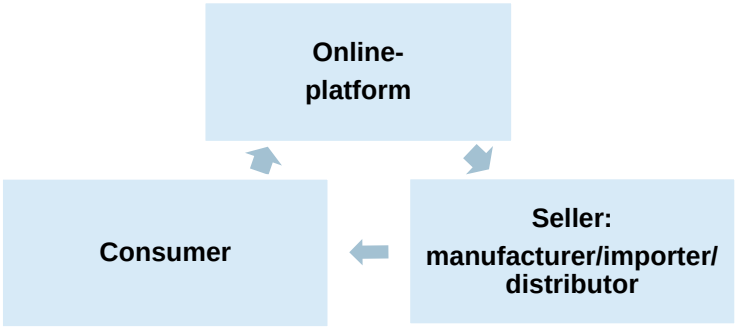


Figure 6. Model for sales through intermediaries (online platforms). The seller is the responsible actor.

Some online platforms take on more responsibility than just intermediary, and are also responsible for warehousing, addressing, packaging and shipping. If an online platform performs two or more of these services, they can be responsible for the products and product safety as well. They are called fulfilment service providers. This applies to the 17 different EU legislation listed in the Market Surveillance Regulation. In the chemicals area this applies to the RoHS Directive and the Toys Directive. See more information in section 1.4.2.

Classic web shop

In the classic linear supply chain, ownership of a product passes from one actor to another in a chain, see Figure 7.

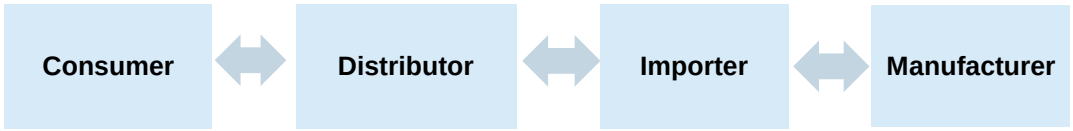


Figure 7. Classic supply chain.

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

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

Drop shipping store (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 based on there being some form of intermediary between buyer and seller. A short summary is that from the customer's perspective, the website looks like a regular web shop. Behind the scenes, the solution resembles an online platform where there are intermediaries before the product reaches the consumer. The responsibility does not change because the actor does not have its own warehouse, which means that web shops, regardless of whether they have a warehouse or not, are responsible for the products sold. The only exception is if another seller is specified for a product.

There are many variations of drop shipping solutions, one is that the products are with the supplier who sends the product directly to the customer. The stock balance can sometimes be directly linked to the supplier's inventory status, which makes it look as if the product is in the web shops own warehouse. Some that have this solution are the Bygghemma group and H&M. This model is similar to that of online platforms, but the differenceis that the web shop is listed as the seller and is therefore responsible. There is no clear intermediary as in the case of the online platform – see Figure 8.

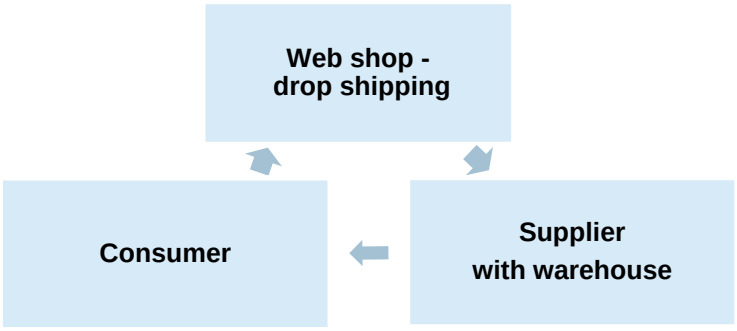


Figure 8. Model for selling using drop shipping, but without a clear intermediary. The web shop – drop shipping does not have its own warehouse. The web shop becomes the responsible party if the seller is not clearly stated on the page.

Another variant that is common among, usually smaller, web shops is to use a platform that helps to start up drop shipping stores. There are ready-made solutions and different drop shipping suppliers. The consumer orders a product, which the drop shipping store in turn orders in the consumer's name from the drop shipping supplier (can be done automatically). The product is then sent directly to the consumer from either the drop shipping supplier or from another company (manufacturer/importer/distributor) (see Figure 9). Dropshippers often focus on certain trend products in small quantities and the stores can be opened and closed quickly. The same products are usually also available for sale on the online platforms.

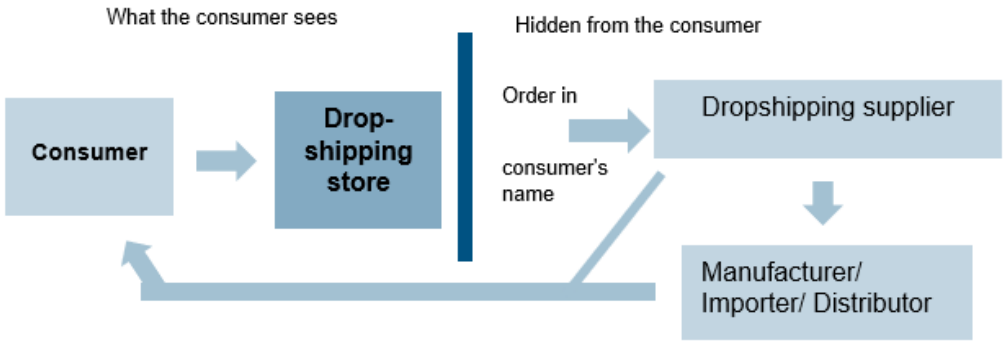


Figure 9. Model for drop shipping stores (online web shop without its own warehouse). The steps after the drop shipping store are usually hidden from the consumer. The drop shipping store becomes the responsible actor.

These stores are structured so that it appears as if the drop shipping store is the seller. The steps that follow are usually hidden from the consumer. The customer perceives that the products are the drop shipping store’s “own” products because there is no information about the actual seller. The prices are determined by the drop shipping store, unlike the intermediary online platform where the seller sets the price.

The Swedish Chemicals Agency assesses that drop shipping stores are responsible for product safety because there is usually no information about the existence of another seller and who this seller is. The consumer gets the impression that it is the drop shipping store with whom they are entering into a purchase agreement. 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, among other things, the following about how the Swedish Consumer Agency views their responsibility:

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

Drop shipping supplier

When the web shop is ready, it needs to be filled with products, usually 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 store, without having to search for suppliers themselves and negotiate prices, supplier terms, shipping, etc. They can also quickly replace the products 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 store is to use an e-commerce platform, such as Shopify, Quickbutik or WooCommerce. These platforms have ready-made concepts (domain name, appearance, design, etc.) with a "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 of shipping, etc., through built-in functions.

How do you recognize the different actors?

For a consumer, it is easy to think that a web shop with text in Swedish and a name with something starting with “.se” is Swedish. Often, it can instead be a drop

shipping store that can sometimes be based in another country. Below we provide examples of characteristics of different actors, which can help identify what type of e-commerce store it is.

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 a Swedish web shop is behind it. Instead, we have some other distinguishing features:

- There is contact information for the company that runs the web shop, usually this 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 stores.
- Under the heading "About us" or similar, there is often more information about the company behind it, history, etc.
- Delivery times are often short, since the web shop has its own warehouse.
- In the information about terms and conditions, right of withdrawal, delivery, etc. there is no mention of "third-party sales" or similar concepts.

Online platform

An online platform is most often characterized by:

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

Drop shipping store (web shop without its own warehouse)

This is what distinguishes a drop shipping store:

- Often there are a smaller number of products and with a focus on a certain type of product, e.g. emergency preparedness products, kitchen gadgets, simple electronics. However, there are examples of drop shipping stores that have a very heterogeneous range with many products of widely different types.
- Generic images that can also be found in other drop shipping stores and on online platforms. Images and information about the products often come from a drop shipping supplier.
- The products are often a little more expensive because they are purchased from other actors, e.g. online platforms, which in turn sell the same product directly to consumers at a lower price. Using image search, you can investigate whether the product is also sold elsewhere on the internet.
- It is often not stated who is behind the website and the only contact information is an email address.
- Under the heading “Terms and Conditions” there are often long texts. Sometimes “third-party sellers” or similar are mentioned here, or that the buyer becomes an importer.
- Drop shipping stores often advertise on various social media.

Many are connected to Shopify, which can be seen at the bottom of the page with the text "Powered by Shopify".

Annex 2. Substances analysed in the project

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

Substances	**CAS number**	**Limit value and regulatory 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 %* • Reach-regulation, Annex XVII, post 51 (toys) *0,1 %* • Reach-regulation, Candidate list *0,1 %*
Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7	• RoHS- directive *0,1 %* • Reach-regulation, Annex XVII, post 51 (toys) *0,1 %* • Reach-regulation, Candidate list *0,1 %*
Dibutyl phthalate (DBP)	84-74-2	• RoHS- directive *0,1 %* • Reach-regulation, Annex XVII, post 51 (toys) *0,1 %* • Reach-regulation, Candidate list *0,1 %*
Di-n-octylphtalate (DNOP)	117-84-0	• Reach-regulation, Annex XVII, post 52 (toys) *0,1 %* • Reach-regulation, Candidate list *0,1 %*
Diisodecylphtalate (DIDP)	26761-40-0	• RoHS- directive *0,1 %* • Reach-regulation, Candidate list *0,1 %*
Diisononylphtalate (DINP)	28553-12-0	• Reach-regulation, Annex XVII, post 52 (toys) *0,1 %*
Diisobutyl phthalate (DIBP)	84-69-5	• RoHS- directive *0,1 %* • Reach-regulation, Annex XVII, post 51 (toys) *0,1 %* • Reach-regulation, Candidate list *0,1 %*

Dihexyl phthalate (DnHP)	84-75-3	• Reach-regulation, Candidate list *0,1 %*
Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	• Reach-regulation, Candidate list *0,1 %*
Dipentyl phthalate (DPP)	131-18-0	• Reach-regulation, Candidate list *0,1 %*
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	• Reach-regulation, Candidate list *0,1 %*
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	• Reach-regulation, Candidate list *0,1 %*
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	• Reach-regulation, Candidate list *0,1 %*
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 %*
Lead	7439-92-1	• RoHS-directive *0,1 %* • Reach-regulation, Annex XVII, punkt 63 *0,05 %* • Reach-regulation, Candidate list *0,1 %*
Cadmium	7440-43-9	• Reach-regulation, Annex XVII, p. 23 *0,01 %* • Reach-regulation, Candidate list *0,1 %* • RoHS-directive *0,01 %*
Nickel	7440-02-0	• Reach-regulation, Annex XVII, p. 27 *0,5 µg/cm2/week*
Polycyclic aromatic hydrocarbons (PAH)	Flera olika	• Reach-regulation, Annex XVII, p. 50 *1 mg/kg (articles)* *0,5 mg/kg (toys)*
Alkanes, C10-13, chlorinated (SCCP)	85535-84-8	• POPs-regulation *0,15 %* • Reach-regulation, Candidate list *0,1 %*

Annex 3. Controlled articles

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

Table 4. Analysed articles containing restricted substances

Trading place	Product	ID number	Substances
Aliexpress.com	Wireless microphone hifi speaker	WS-858	Pb, Cd
Aliexpress.com	Ultrasonic Electric Toothbrush	luomazhu-fen-4tou	SCCP, DEHP, Pb
Aliexpress.com	Dance Mat	051500CN	SCCP, DEHP, DBP
Aliexpress.com	Kids Dinosaur Headphones	102384	Pb
Aliexpress.com	Smartwatch	Y-13H	Pb
Amazon.se	Smartwatch för Barn	86326095511052	Pb
Amazon.se	Viclon LED Golves	2117684/D4821045 V5-CCCZF-FGST-FBA	Cd
Amazon.se	Hasagei	X00116C2Z5L	PAH
Amazon.se	Led mask	X001KOW663	Pb
Amazon.se	Hianjoo Aroma diffuser	2141	DEHP, DBP, Pb
dhgate.com	Childrens digital camera	X2X5S	SCCP, DEHP, DBP, Pb
dhgate.com	Cosmetic bag	missing	DEHP
dhgate.com	idealway New Fashion Bohemian	missing	Cd
Hundensfavorit.se (Kina)	Anti bark collar	missing	SCCP, DBP, Pb
Joom.com	Silver 15 stycken Finger Ring	G005 R322 H2-04-23	Cd
Joom.com	Bluetooth-headset	Missing	SCCP, DEHP, DBP, Pb
Joom.com	Outdoor Hedlight	6901234567892	SCCP, DEHP, Pb
Joom.com	Helicopter Channels infrared control	CY387-5 3260643	SCCP, Pb
Joom.com	Ring Gothic Horror Skull	3101172841 6098903679	Cd

Joom.com	Led controller	Missing	SCCP, DEHP, Pb
Joom.com	P9	6989532512530	SCCP, DEHP, Pb, Cd
Joom.com	Spartan Punk Warrior halsband	Missing	Cd
Mingora.se (Decide Commit Succeed BV, NL)	Robot Mechanics	P16876-1/CW:D-0002	SCCP, DEHP, DBP, Pb
Nordiskmarknad.se (privatperson)	Solros halsband	missing	Cd
Nordiskmarknad.se (privatperson)	Pop Game - Djur	ME-099	Pb, Cd
oneshopnordic.se privatperson)	Tree Of Life Bracelet	3863071	Cd
Satana.se (Jhl Medie IVS, DK)	LED Astronaut nattlampa med djur	6970531448333	Cd
Satana.se (Jhl Medie IVS, DK)	Karaoke Mikrofon med Bluetooth & Högtalare	858	SCCP, DEHP, DBP, Cd
Satana.se (Jhl Medie IVS, DK)	Cellulite remover	DYX-0505	SCCP, DEHP, Pb
Sebutik.se (privatperson, NL)	Silverarmband	DJE4-SG858003	Cd
Sebutik.se (privatperson, NL)	Tandrengörare	7116 and QB815001 J	Pb
Solivas.se (privatperson, UK)	Hårstyler	6983450235878	Pb
Temu.com	Blue tactile ball	1347032228 4082675904	DBP, DIBP
Temu.com	Hopprep rosa	3535005398, 4922204528	DEHP, DIBP
Temu.com	String light	GK-RYBH23/1033	SCCP, DBP, DIBP
Temu.com	Snail run fast	NO.RS-9024C YN231220-012	Pb
Temu.com	Blomring	3370513286, 8241973630, 0277heise	Cd
Temu.com	Sömnmask	BT-FAAH	SCCP, DBP, DIBP, Pb, Cd
Amario.se (TLE Business, NL)	Drejhjul	missing	SCCP, DEHP, DBP, Pb
Uplift.se (privatperson)	TeddyGlow™ | Nallebjörnen Som Lyser Upp Med Kärlek	missing	Pb

Uplift.se (privatperson)	Ängel Ring™ | Ringen Som Påminner Dig Om Din Skyddsängel	missing	Cd
Wish.com	13 Colors Glowing Ball LED	missing	Pb
Wish.com	XY140-Waterproof bag - yellow	15012651 el. AB11-05-04	DEHP
Wish.com	Vintage Bohemia Moonstone Ring		Cd
Wish.com	Halsband turquoise bohemia	missing	Cd
Wish.com	5 Pairs/Set Vintage Earrings	missing	Cd
Wish.com	K9 Wireless Microphone	K9	SCCP, DEHP, DBP, Pb

Table 5. Analyzed articles that did not contain restricted substances.

Trading place	**Product**	**ID number**
Aliexpress	Inflatable Lounger chair	FDJ21-1007
Aliexpress	Elephant ring	missing
Aliexpress	Feather Bracelet	Code: BR23Y0801-2
Aliexpress	Bohemian bracelet bronze	Code: PZ80614437
Aliexpress	Elephant Drop Earrings	7YF013
Amazon	Baphoment	2621727
Amazon	Lichuanuk 22	X001V73RMR
Amazon	PVC transparent toilet bag	356109/D4832948
Amazon	Hand crank Flashlight	DT309A
Brand Management Navigator AB (jewellrybyunique.se)	Boho armband med stenpärlor	missing
DDP Sverige AB (Marjoe.se)	Get skull stålring	BR406
DDP Sverige AB (Marjoe.se)	Kors med jesus på korset halsband	G2006
DH gate	P01 360 AutoFace Tracking Gimbal	P01
DH gate	shower curtain	missing
DH gate	Bath Toys Baby Fidget	missing
DH gate	New Bohemian Fashion	missing

Epiko.se	Magic LED™ Ritplatta	MKD006211904
Epiko.se	Epiko | HeartHug	MKD00618704
GLN Design AB (Variadesign.se)	Halsband Ragnar	89-4
GLN Design AB (Variadesign.se)	Ring Valknuten Raven	21-9
GLN Design AB (Variadesign.se)	Örhänge Vegvisir	260
Hundensfavorit.se (Kina)	Hårborttagare husdjur	JW237002
JB International Commerce (Nordica-stockholm.se)	CreatureLight™ | Färgglatt Glas Djurlampa	missing
Joom	Transparent väska	Missing
Kidsdreamstore.se	SpyX Voice Disguiser	20191
Kidsdreamstore.se	REAL WILD Drake	20250
Kidsdreamstore.se	Molnlampa som virvlar med vatten	37551
MB Sirupas (Hudcentralen.se)	Lumi ljusterapimask	4779058620121
oneshopnordic.se privatperson)	Colorful Silicon Night Lamp	2167650
Solivas.se (privatperson UK)	Detox armband	missing
Temu	Purple-Round frog pad, bagged	3325867517 alt. PPD-DZ-65yxzsqw
Temu	3 in 1 Wireless charger	B-23, 4239089278
Temu	Gemstone Armband	00002849, 5540729911
Temu	Halsband döskalletjur	8030733459, 7911578883, E202309035
TLE Business NL (Amario.se)	BUFF™ MAGISK BUBBELBOLL	missing
Wish	Inflatable Baseball Bats/Stick hammer toy	7U2179 el. E4-76-04
Wish	Best USB data cable	BZX123

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