



YOUR RIGHT-TO-KNOW ABOUT HAZARDOUS INGREDIENTS: BRINGING REACH ART.33 TO LIFE

An ex-post analysis of the LIFE AskREACH project

2023



The Project LIFE AskREACH (No. LIFE16 GIE/DE/000738) is funded by the LIFE Programme of the European Union



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GLOSSARY AND ABBREVIATIONS

Article	Object, which during production is given a special shape, surface or design, which determines its function to a greater degree than does its chemical composition. ¹ Chemicals and mixtures thereof, such as cosmetics or household detergents, are not covered by the article definition and neither is food. The term "product" is sometimes used in the report instead of "article", especially with regard to consumers
BOM	Bill Of Material
CSS	Chemical Strategy for Sustainability, COM (2020) 667 final
EAN	European Article Number
ECHA	European Chemicals Agency
EDC	Endocrine disruptive chemicals
EGD	European Green Deal
FMD	Full Material Declaration of supplied (parts of) articles down to basic substance level, including declaration of all used substances in their respective physical and chemical states upon delivery
GDPR	General Data Protection Regulation
GEPIR	Global Electronic Party Information Registry
ISO	International Organization for Standardization
m.	Million
PBT	Persistent, Bioaccumulative and Toxic
REACH	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
RSL	Restricted Substances List
SCIP	Database for information on Substances of Concern In articles as such or in complex objects (Products)
SME	Small and medium-sized enterprises
Supplier	Any producer or importer of an article, distributor or other actor in the supply chain placing an article on the market. ²
SVHC	Substance of very high concern as legally defined by REACH Art. 57 and identified by public authorities in a formalised procedure. SVHCs include substances, which are persistent, bioaccumulative and toxic or very persistent and very bioaccumulative (PBT/vPvB), substances that are carcinogenic, mutagenic or toxic to the reproductive system (CMR) and substances with properties of equivalent concern, e.g. endocrine disrupters (ED) or respiratory sensitisers. Due to their problematic properties, SVHCs may cause damage to human health, wildlife and/or the functioning of ecosystems. The group of PBT/vPvB substances are of particular concern for the environment, because they persist and accumulate in certain environmental compartments and in the food chain. The latter is also leading to considerable exposure of humans to SVHCs and potential adverse health effects.
vPvB	very Persistent, very Bioaccumulative
WFD	Directive 2008/98/EC on waste
w/w	weight by weight

1 REACH Art. 3(3)

2 REACH Art. 3(33)

1. PREFACE

The European Union's chemicals policy aims to preserve a high standard for human health and the environment, both for current and future generations. At the same time, it attempts to guarantee the smooth operation of the internal market and competitiveness within the European chemicals sector. The REACH regulation includes a list of "substances of very high concern" (SVHCs) to be "properly controlled" and intends to put pressure on business and offer incentives to strive to progressively replace these harmful substances with less dangerous ones. The European Chemical Agency (ECHA) promotes the replacement both directly and indirectly by seeking to assure the effective implementation of REACH.

The LIFE AskREACH project has aimed to contribute to the substitution of SVHCs in consumer articles (chapter 2). REACH Article 33 (2) entitles consumers to obtain from suppliers - on request - information about the presence of SVHCs in consumer articles. By using this 'right to know' consumers can demonstrate that they don't want to buy articles with SVHCs. Obtaining the SVHC information from the supplier helps them to avoid such articles and consequently, increase demand for consumer articles without SVHCs (at least at concentrations less than 0.1% by weight). LIFE AskREACH helps consumers to become aware of their right to know and provides consumers with a smartphone app to scan article barcodes and send SVHC requests to companies. The smartphone app, one of the project's main deliverables, can be used not only by consumers but also by suppliers and professionals who procure articles such as furniture or electronic equipment for their offices.

Companies can voluntarily upload information about SVHCs in their articles to a European database which is connected to the smartphone app and was also developed under the AskREACH project. The companies need to receive such information from their own suppliers. AskREACH has a sub-action that supports companies in establishing good communications along the supply chain.

The initial seed to a Europe-wide project was planted by the experience of the German and Danish partners. Both started with a smartphone app for consumers and soon experienced the limitations resulting from its operability in just one country, because markets and supply chains are global. In addition, studies highlighted consumer interest for hazardous chemicals in products and official reports confirmed the dysfunctionality of supply chain communications for article information. Therefore, the idea formed to produce a central database and launch apps in many European countries – a high number of consumer requests from many countries can stimulate suppliers to improve SVHC communication and, ultimately, replace SVHCs in their articles with alternatives.

2. CURRENT REGULATORY BACKGROUND: SUBSTANCES OF VERY HIGH CONCERN AND INFORMATION DUTIES UNDER REACH

The EU REACH Regulation on the Registration, Evaluation, Authorisation and restriction of Chemicals (1907/2006/EU) came into force in 2007. The chemical substances or substance groups identified under the REACH Regulation as SVHCs (Substances of Very High Concern) may cause damage to human health, wildlife or the functioning of ecosystems. The following categories of substances may be identified as SVHCs under the REACH Regulation according to its Article 57:

- Carcinogens (may cause cancer),
- Mutagens (may cause genetic defects or germ cell mutations),
- Substances toxic to reproduction (harmful to sexual functionality and fertility and/or development in offspring),
- Substances which are persistent (low environmental degradation), accumulate in organisms (high enrichment in organisms compared to the environment) and toxic (PBT substances),
- Substances which are very persistent and very bioaccumulative (vP/vB substances),
- Substances of equivalent concern, e.g. endocrine disruptors (interfere with human and/or wildlife hormone systems).

The SVHCs are listed in the “Candidate List”, which is updated twice a year to include more substances. In May 2023 the list included 233 substances/groups of substances. They are candidates for the authorisation process under REACH, i.e. their use might be limited to certain applications. In addition, REACH stipulates that these chemicals should progressively be replaced by suitable alternative substances or technologies where economically and technically viable (Article 55). However, it usually

takes several years to regulate a substance under REACH, and viable alternatives are not always readily available. Consumers can shift the demand for SVHC-free products and thus help to accelerate the substitution of SVHCs with less harmful substances.

The project addresses the so-called ‘right to know’ of Article 33(2) of the REACH Regulation. It states that a supplier of an article (also referred to as “product” in this report) is obliged, upon request, to inform a consumer if a given article contains an SVHC. All actors within the supply chain fall under the “supplier” term: producers, importers, distributors or retailers. This obligation applies as soon as at least one SVHC is present at a concentration of more than 0.1% by weight in that article or in a part of the article that falls under the article definition of REACH (see glossary). The information must be made available by the supplier within 45 days and has to be provided free of charge. The response should contain sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of the SVHC. Article 33 applies to most solid objects such as clothing, furniture, toys or electronics offered for consumer use. In the case of food, medicines, and “non-solid” articles such as cosmetics, cleaning agents, paints, or powders, the REACH obligation to provide information applies only to the packaging.

Article suppliers can only provide the relevant information if the communications work as intended along the supply chain. According to REACH Art. 33(1) suppliers have the duty to communicate to the recipient of an article within the supply chain the names of SVHCs present in those articles above 0.1 % with available safe handling information – on delivery. This requires both awareness and readiness of all actors along the supply chain to provide information about SVHCs in an article’s input materials. The European Chemicals Agency ECHA reports “clear indications” that SVHC information is not adequately

communicated along the article supply chains.³ Almost one year after the start of the AskREACH project, the revised Waste Framework Directive (WFD) entered into force in July 2018. Article 9 (waste prevention) links this Directive to Art. 33 of the REACH Regulation and tasked ECHA to develop and maintain a new database, the SCIP

database.⁴ Suppliers must submit information to SCIP about all articles they place on the EU market which contain an SVHC at a concentration above 0.1% weight by weight (w/w). As stipulated in the legislation, the database was established in January 2020 and relevant information is being submitted as from January 2021.

3. THE ENVIRONMENTAL PROBLEM

According to the European Environment Agency (EEA), ongoing exposure to chemical pollution continues to negatively affect human health and the environment. Latent and irreversible damage to human health is of particular concern. The consumption of chemicals hazardous to health in the EU totalled 225 million tonnes in 2021.⁵ The projected increase in chemical production and continued emissions of persistent and hazardous chemicals suggests that the total chemical burden on health and the environment is unlikely to decrease.⁶

Among the substances of very high concern (SVHCs), the group of PBT/vPvB substances are particularly harmful in the environment, because they persist and accumulate in certain environmental compartments. Accumulation along the food chain is leading to considerable exposure of humans to SVHCs with potentially adverse health effects. Monitoring data of PBT/vPvB substances shows that they are present even in remote areas, far from their emission sources, due to global transport via water, air, and biota. The group of endocrine disruptors (EDCs) also deserves particular attention with regard to human health and the environment because these substances may be effective even at very low concentrations. They can cause damage to the reproductive system and the immune system, and change reproductive behaviour, thus potentially having adverse effects on subsequent generations as well as on the population dynamics of species, which could result in considerable impairment of ecosystem functioning.

Scientific research has demonstrated that simultaneous exposure to several hazardous substances may result in adverse effects even if the concentrations of the various substances remain below their individual effect thresholds. This mixture toxicity or “combination effect” is particularly relevant for PBT/vPvB substances and endocrine disruptors. As PBT/vPvB substances persist in the environment and frequently accumulate in the same environmental compartments or tissues, such as sediments, soils and fatty tissues, they are more likely to co-occur in the environment or in organisms compared with substances that are quickly degraded or metabolised.

Consumer articles containing SVHCs often have a wide-dispersive use and release of SVHCs cannot be excluded throughout the whole life cycle, including the end-of-life phase (recycling, waste management). In order to reduce exposure of the environment and humans, the emissions of SVHCs should be minimised. The phase-out of SVHCs in all applications, where this is technically and economically feasible, is one of the central goals of the REACH Regulation. The most efficient means of emission reduction is the phase-out of the production and use, while risk management measures are widely ineffective when it comes to unintended emissions from articles.

3 ECHA (2016), page 120

4 Substances of Concern In Products (articles as such or in complex objects)

5 https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Chemicals_production_and_consumption_statistics

6 https://www.eea.europa.eu/publications/soer-2020/chapter-10_soer2020-chemical-pollution/view

4. INTRODUCTION TO THE ASKREACH PROJECT

LIFE AskREACH is a project funded by the EU LIFE programme (2017-2023) and the participating partners. Under the coordination of the German Environment Agency, 20 partner organisations in 13 EU member states have been cooperating to make the REACH consumer right more effective and assist the industry in improving article information flow within the supply chain and towards consumers (Figure 1). As part of the project, a free of charge smartphone app named “Scan4Chem” was created (other names in some countries: ToxFox, Tjek Kemien, Kemikalieappen, Pytaj o Chemię). It allows consumers to scan the barcodes of articles to see if they contain SVHCs, or to send REACH consumer requests directly to companies. The project also supported companies to make it easier for them to respond to SVHC requests using the AskREACH database – companies can upload their article information so that it can then be shown to the app users. In addition, a (commercial) supply chain communication tool for companies to increase their competence and capacities to comply with REACH was tested by six pilot companies and promoted for wider use.

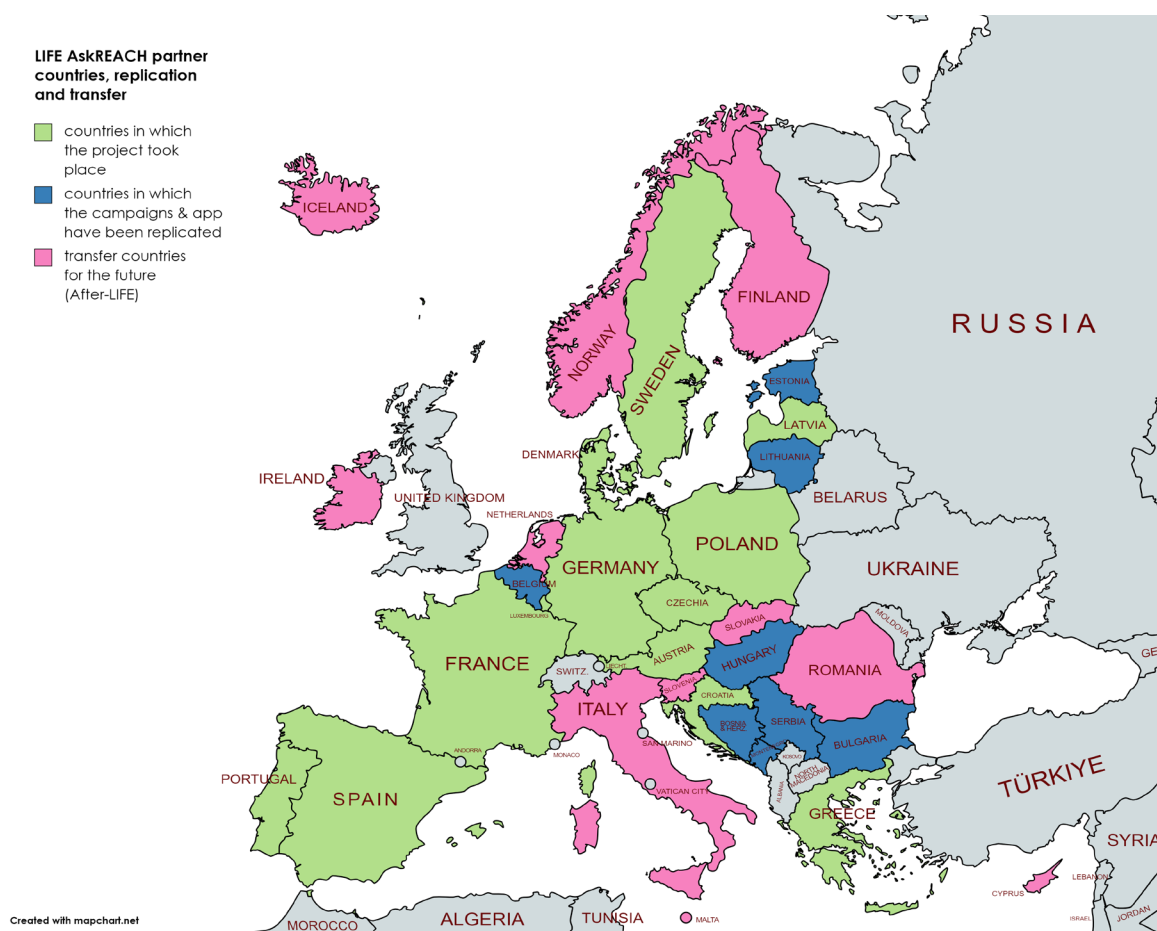


Figure 1 The LIFE AskREACH project in Europe

The specific objectives of the project were:

- To raise consumer awareness on SVHCs in articles and enable them to make informed purchasing decisions,
- To raise awareness and compliance of article suppliers about SVHCs in articles and communication obligations under REACH,
- To facilitate communications on SVHCs between consumers and companies,
- To initiate and guide supply chain communication processes that finally aim at substituting SVHCs in articles.

In summary, the principal goal of the project was to increase substitution of SVHCs with safer alternatives by enhancing communication on SVHCs in articles on the basis of REACH Article 33(1) and (2). Market actors are expected to replace SVHCs in their articles when facing an increased demand for articles without SVHCs at concentrations above 0.1%. The availability of information on the presence of SVHCs in their articles plays a paramount role in this regard. The Scan4Chem app contributes significantly to an increase in information requests because it motivates the consumers to ask, whereas the database supports companies to efficiently answer these requests or better still, to make their information readily available to all interested consumers only once per article, when entered in the database.

AskREACH main actions



European smartphone app Scan4Chem for requests according to REACH Art. 33



Central European database with information on SVHCs in articles



Optimisation and application of a supply chain communication tool



Consumer campaign, company campaign

The IT tools (database, consumer app and company supply chain tool) were developed in two preparatory actions and two implementation actions. Two large scale public relations campaigns were implemented, encouraging: i) consumers to submit information requests, and ii) companies to provide responses and improve their supply chain communications. These activities were accompanied by actions to make the project visible all over Europe, to facilitate the political uptake and a Europe-wide experience exchange on implementation and enforcement of REACH Art. 33, and to replicate the campaigns in additional European countries.

5. ENHANCING INFORMATION FLOW ON SVHCS – AN IN-DEPTH ANALYSIS

5.1. Consumer/Scan4Chem app interaction.

5.1.1 Societal and economic setting

Studies conducted by Eurobarometer clearly show that European citizens are deeply concerned about the presence of chemical substances in their daily life and feel particularly uninformed about their presence and impacts. The widespread concern among consumers regarding chemical substances is not surprising given the potential risks they pose to human health and the environment. This concern extends to SVHCs regulated under the REACH regulation. The same attitude was observed among the users of the app (see section 5.1.3). EU consumers have high trust in regulation and chemical safety – they do not see the need (or the sense) in acting at an individual level. They strongly believe that companies should provide readily available and visible information about SVHCs in articles (products).⁷ However, there is a lack of awareness among consumers that this information only becomes available on request and that it is their right to request this information from article suppliers. According to REACH, suppliers are obliged to provide this information within 45 days, free of charge.

Before the project started, other available consumer information tools focused on raising awareness and facilitating consumer requests. The ToxFox app by project partner Friends of the Earth Germany (BUND) and the WikiFood app by the Luxembourg Institute of Science and Technology provided information on harmful substances in cosmetics and food, respectively. These apps encouraged users to contribute to the associated databases by filling gaps or updating outdated information. However, there were only a few consumer information tools which addressed articles in terms of REACH. The Danish “Tjek Kemien” and two German based tools (extension of BUND’s ToxFox, Scan4Chem by UBA) that existed before the project, focused on facilitating consumer requests for SVHC information in articles.

However, these tools were limited to a national level and did not address the broader European context. It is worth noting that other consumer information tools, such as the CodeCheck app, provide information about ingredients in products like food or cosmetics but do not specifically address the presence of chemical substances in articles as defined under the REACH regulation. This highlighted the need for specialized tools catering to the requirements of the REACH framework that provide consumers with accurate information about SVHCs in various articles.

One example of the impact of consumer information tools and public awareness is the case of bisphenol A (BPA), which is classified as an SVHC. BPA is widely used in consumer products, including plastic bottles and food containers. Through increased awareness campaigns and consumer demands for BPA-free products, many companies have voluntarily removed BPA from their products or introduced alternatives (ChemSec, 2021). This demonstrates the influence of consumer awareness and the importance of accessible information on SVHCs in driving market changes.

To further enhance consumer awareness and access to information, continuous efforts are needed to improve and expand consumer information tools, develop standardised methods for disclosing SVHC information in articles, and promote collaboration among stakeholders. Effective communication channels, educational campaigns, and clear guidelines for suppliers are also crucial to ensure that consumers are informed and empowered to make informed choices regarding the products they purchase.

A multi-faceted approach is required that involves empowering consumers with information, fostering collaboration among stakeholders, and implementing effective regulatory measures to protect human health and the environment.

⁷ Eurobarometer. (2019). Special Eurobarometer 480: Attitudes of Europeans towards the impact of digitization and automation on daily life. https://data.europa.eu/data/datasets/s2207_90_2_480_eng?locale=en

5.1.2 Project activities

The project idea was to nudge consumer behaviour towards getting informed on SVHCs in articles via the smartphone app right at the

point of sale, and enhancing their consumption behaviour by helping them to select SVHC free articles.

Launch and functionalities of Scan4Chem

The “soft launch” of the smartphone app and campaigns began in June 2019 and lasted until the official launch in autumn and winter 2019/2020. During the soft launch, volunteers in all countries tried the apps to test communications and to incentivise companies to start filling the database for the selected product groups. The smartphone app was successfully launched in February 2020, accompanied by events and streamlined consumer communication. Currently (July 2023), the app is available in a total of 21 countries: Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark (Tjek Kemien), Estonia, France, Germany (Scan4Chem and ToxFox), Greece, Hungary, Latvia, Lithuania, Luxembourg, Montenegro, Poland (Pytaj o Chemię), Portugal, Serbia, Spain, and Sweden (Kemikalieappen). It is free-of-charge and can be downloaded from the Google Play store or Apple store.⁸

App users can scan the barcode of an article or - if the barcode is not recognised by the system – manually search for a brand, a product or company name. If available in the AskREACH database, the desired SVHC information is then shown to the app user. If no information is available, the app may show contact details of a company that produces or sells the scanned product (the barcode owner) in order for the user to send an information request to that company. The app gives an overview about sent, unanswered and answered requests to the user.

In addition, [a web application](#) of Scan4Chem was developed that can be used with any internet browser. This way, consumers without a smartphone can also use the app. Since barcodes are frequently not provided on online marketing platforms, it is also possible to search for a product name or company name (article supplier) and use a template to send SVHC requests via an own e-mail client.

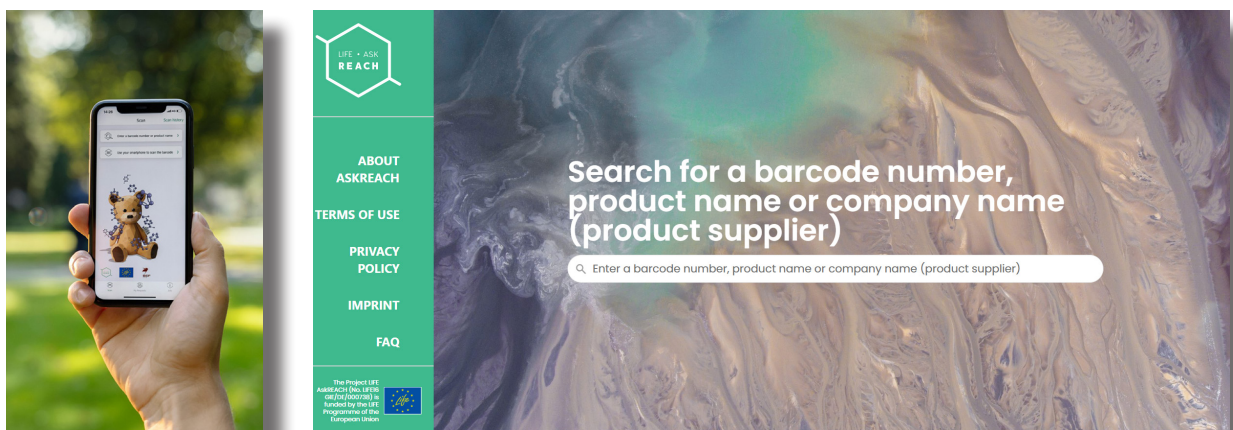


Figure 2 Example of a main page of the Scan4Chem app and the web application platform

8 In Germany also here: <https://repo.mobilsicher.de/apps/de-uba-scan4chem/>

Communication and consumer campaigns

- The campaigns for consumers addressed the target group via different channels and contained several work packages:
- Preparation of streamlined text materials, web-info and corporate design
- Campaign launch including press work and ambassadors
- Street posters and info screens on ships, trains, stations, etc.
- Media work and social media campaign with support of influencers (#AskREACH #Scan4Chem)
- Extensive online campaigning and marketing in response to Covid19 measures
- Events and info-stands at fairs, festivals, malls, etc.
- Consumer competitions and awards
- Consumer surveys and interviews to analyse behaviour pattern
- Chemical information beyond SVHCs in articles



Figure 3 Social media post saying "The feeling when your gift is free of bisphenol A.[...]Have your chemistry under control?" by the Danish Consumer Council

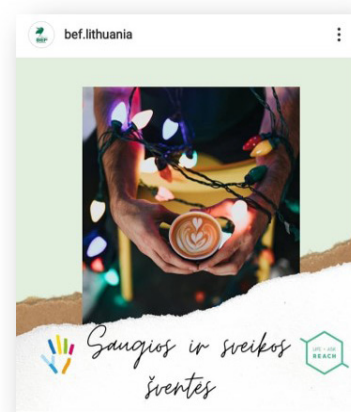


Figure 4 Social media post saying "Safe and healthy holidays" by BEF Lithuania

Some of the campaign actions were set to be interactive and envisaged direct contact and involvement of the consumers. Due to the Covid-19 pandemic restrictions, this became practically impossible in 2020 and restarted gradually in 2022. During that time, not only was the direct contact with consumers hindered, but also their shopping behaviour patterns shifted heavily towards online shopping, making it impossible to scan a barcode before making a purchasing decision. When the war against the Ukraine started in February 2022, the media focus was drawn away from environmental issues and the concerns within the European society changed significantly. In the partner country Croatia, a severe earthquake in December 2020 forced the local project team to interrupt their campaigning activities.



Figure 5 Advertisement for a short course on the Right to Information and the Kemikalieappen by the Swedish Consumers' Association



Figure 6 Info event by Friends of the Earth Croatia

Nevertheless, the project achieved a very high level of recognition and visibility. Some of the most prestigious organisations dealing with chemicals policy have promoted Scan4Chem from the beginning, such as the European Chemicals Agency (ECHA) and the news portal "ChemicalWatch", as well as other large European networks among partners such as the European Environmental Bureau, Friends of the Earth, the European Consumer Association network, the REACH forum and helpdesk network.

Nearly 1,200 events addressing the general public were organised in the course of the

project, such as exhibition stands at fairs or malls, contributions to newspapers, podcasts, and appearances on the radio or TV.

The partners also achieved a high traffic on their websites in terms of visitor numbers (300,000 per year) and duration of their stay. Given the pandemic situation, partners had to move campaigning activities from live events to social media. Looking solely at the activities on Twitter and Facebook, the articles/posts with the project's hashtags potentially reached 31 million people, while those with the project's keywords 45 million people.

User surveys and consumer interviews

Understanding how Europeans feel and behave when it comes to chemicals has been a goal of the LIFE AskREACH project from the beginning. During the initial phases of the project, a baseline study was created, articulating Eurobarometer studies, which have for many years included questions attempting to understand how Europeans perceive and deal with chemical substances on a daily basis. The survey was created by the project team and distributed via the networks of the various partners in 14 countries (reaching almost 14,500 respondents).

Following the launch of the app, the project assessed in 2021 what users thought about the app, how and when they used it and how they perceived chemicals in articles and their right to know if an article contained an SVHC. To this end, users of the app had the opportunity to participate in a short online survey. 1,726 users

took part in the survey. This same exercise was repeated two more times. In the second survey 796 answers were obtained and in the last round, during the last quarter of 2022 until February 2023, the number was 1,282, resulting in an overall total of 3,804 collected answers.

Qualitative interviews provided an in-depth insight into the users' perspectives. The main objective was to understand users' perceptions of the app's features and areas for improvement. In total, 139 interviews took place in the first and fourth quarter of 2022 in all partner countries, as well as in Serbia, Estonia, Hungary and Spain.

5.1.3 Findings and conclusions

App development

During the first 21 months of the project, the partners prepared the software requirement specifications and the project partner Luxembourg Institute of Science and Technology programmed the app, the accompanying European database and further IT tools needed to make the system work. As is always the case with IT tools, after the launch of the system, continuous maintenance

and bug fixing activities were necessary. In addition, some problems had to be overcome, e.g. new data privacy policies (GDPR) impacted the envisioned use of company contact details from the international GEPIR database. The GEPIR database is provided by GS1, which supplies companies with their barcodes.

Scan4Chem in numbers

The project has made great efforts to raise awareness among consumers. Nevertheless, consumers were less engaged than expected, for a range of reasons. The Covid19 pandemic and the war against Ukraine reduced attention to the issue of harmful substances in everyday life. Another reason is the complexity of the 'right to know' according to Article 33 of REACH, e.g. the right applies only to solid objects, companies have 45 days to respond and are legally obliged to respond only if an SVHC is contained in the article at a concentration above 0.1% w/w. Low response rates among the suppliers and the lack of cooperation by companies in providing their SVHC information on the project database resulted in fewer numbers using the AskREACH tools than expected. Until the end of the project (31.08.2023) the smartphone app Scan4Chem has been downloaded more than 146,500 times in Europe. However, there are even more downloads that can be attributed to AskREACH: The project has linked the German consumer app ToxFox⁹ to the AskREACH system. Both apps are now connected to the same database. The main feature of the ToxFox app is that it provides information on the presence of EDCs in cosmetic products.¹⁰ Scan4Chem users have already used the app to scan more than 290,000 articles and send around 50,000 requests about

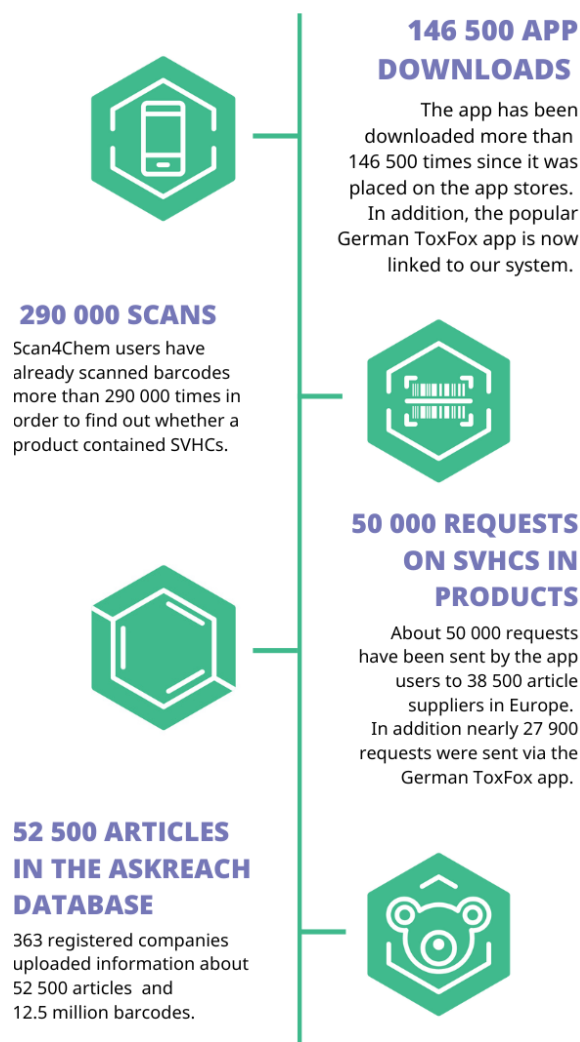


Figure 7 Scan4Chem in numbers

⁹ By AskREACH partner organization Friends of the Earth Germany (BUND)

¹⁰ For cosmetic products, different "societal" and legal framework conditions apply compared to the REACH right-to-know. First, most consumers of cosmetic products are very cautious about their ingredients. Second, EU law stipulates that cosmetic products need a list of ingredients. The ToxFox's added value is an interpretation of this data to determine whether or not endocrine disruptive chemicals (EDCs) are present in the formulation – an issue that continues to receive remarkable media coverage. The app retrieves information from a large product database maintained by crowd sourcing.

SVHCs in articles to 38,500 suppliers. Another 27,800 requests were sent via ToxFox. These numbers can be seen in Figure 7 below, which displays the number of scans and the requests that were sent to suppliers as well.

Apart from scanning products and sending requests to suppliers to receive article information on SVHCs, consumers can also

contribute to the database, when manually looking for a company contact if none is available in the database, and sending an information request at that company. All this crowdsourced information is checked by regional administrators and added to the database.

App user behaviour and experience

In absolute terms, the number of requests remained rather low¹¹ (which is the prime explanation for the rather low volume of article data available in the database; see details in section 5.2.2). During the interviews with app users, several reasons for this were presented, e.g. the information was not immediately available on the app, the fact that the app does not apply to all products, the response time allowed (45 days), and particularly the uncertainty about the feedback from producers¹², even if a request was sent. Overall, prompt access to information has improved with time, since 57% of respondents in the first app survey said that they received information on SVHC presence for fewer than half the barcode scans, but in the last app survey that number is 48%. If no information was available, the app users often did not send a

request. One reason might be that several steps are required before a request can be sent.

Considering the third app survey, only 33% said that they used the app regularly and 24% reported that they seldom used it, but these numbers have not changed significantly over the three surveys.

The data from the surveys and the interviews also show that the longer the app is on the mobile phone, the less likely it is to be used. However, this is a general tendency and is not a specific characteristic of the Scan4Chem app.

Looking at the available statistical data, Figure 8 shows in the early project period identical numbers for requests and unique requesters, which means that on average, each user sent a single request. In the later project periods, individual users on average made several requests.

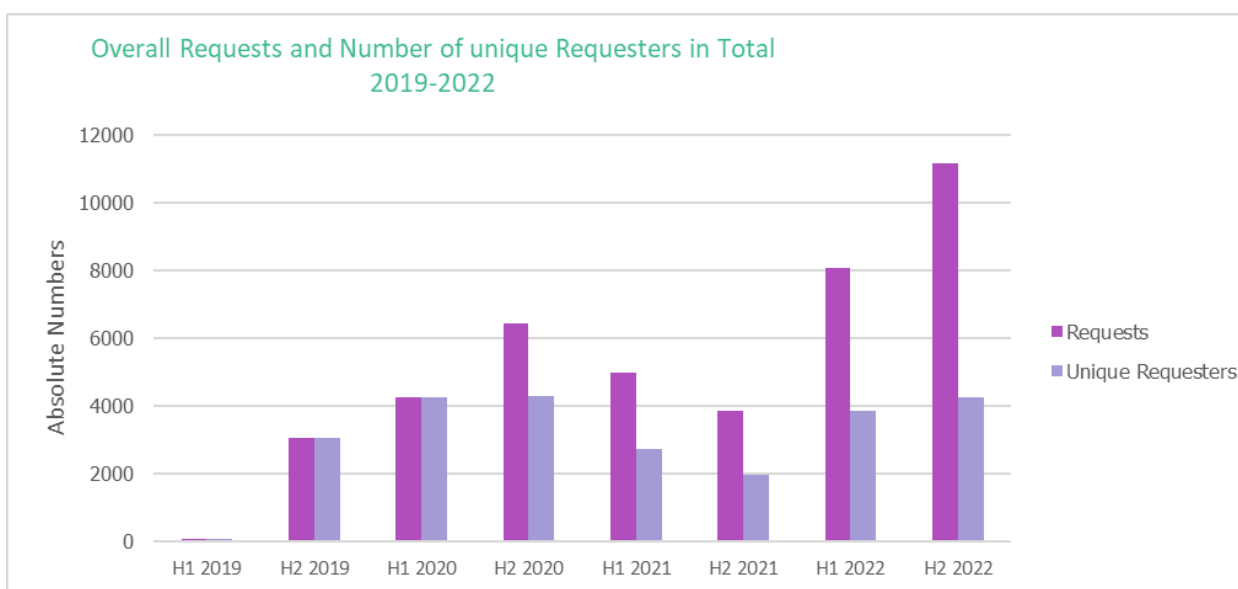


Figure 8 Overall requests and unique requesters (H1 = first half of the year, H2 = second half of the year)

¹¹ Number of requests until 31.08.2023: 50,000 (excluding 27880 requests sent from ToxFox since 01.05.2019)

¹² The response is missing in around 50% of cases. And often the response contains misleading information or information that cannot be interpreted correctly by consumers

One reason for this improvement was the campaign activities the partners carried out during the project. Almost all partners organised contests in which they called on people to send REACH requests with the app to several suppliers. The scanning contests did not only lead to increased awareness, but also resulted in higher scanning numbers during the period of implementation. Some partners (mostly Austria and Hungary) worked closely with schools and developed exercises for teachers on SVHCs in articles. As young people appear to be more open to the use of new apps, sending requests seemed to be popular among pupils and students.

Evaluation of the consumer campaigns confirmed that the IT tools provided by the project had a much more significant impact for those who were contacted directly via online workshops, at info stands or in the social media

through comments or in the app store reviews section.

Based on the experience that there are many one-time-users, expectation management in the campaign communication was adapted accordingly. Because little information was stored in the AskREACH database, Scan4Chem was advertised by the partners as a tool to facilitate the sending of information requests rather than as a tool that immediately provides information. However, around 50% of survey respondents stated that the app provided company contact data after only every second scan. While there is an option to send requests to email addresses that are found by the app users themselves (online or on the packaging), this is sometimes difficult because the responsible European supplier and the respective email contact are hard to find.

Level of concern

Despite the identified issues, the general opinion about the app expressed in the online survey and the interviews was very positive, particularly because of its ability to increase the knowledge of consumers about the risks of chemical substances for health and the environment. Also, people felt part of a community that works towards the end of the use of SVHCs by companies. It is also very positive that more than 95% (on average) said they would recommend the app to friends, and 70% intended to continue using the app.

As mentioned in 5.1.1, studies by the Eurobarometer illustrate the high concern among the general public about the presence of problematic chemicals (carcinogenic, toxic

for reproduction, harmful to the environment, etc.) in consumer products. This also applies to the users of Scan4Chem. The fact that more than 90% of the users who answered the various rounds of the survey expressed a high to medium level of concern with this issue clearly shows the relevance of this topic for Europeans. In the third round of the survey, 50% were very concerned and 44% were concerned. Although differences in concern are not apparent when age and education are considered, gender seems to have a small effect. In fact, it is more common among female respondents to express higher levels of concern (very concerned) (Figure 9).

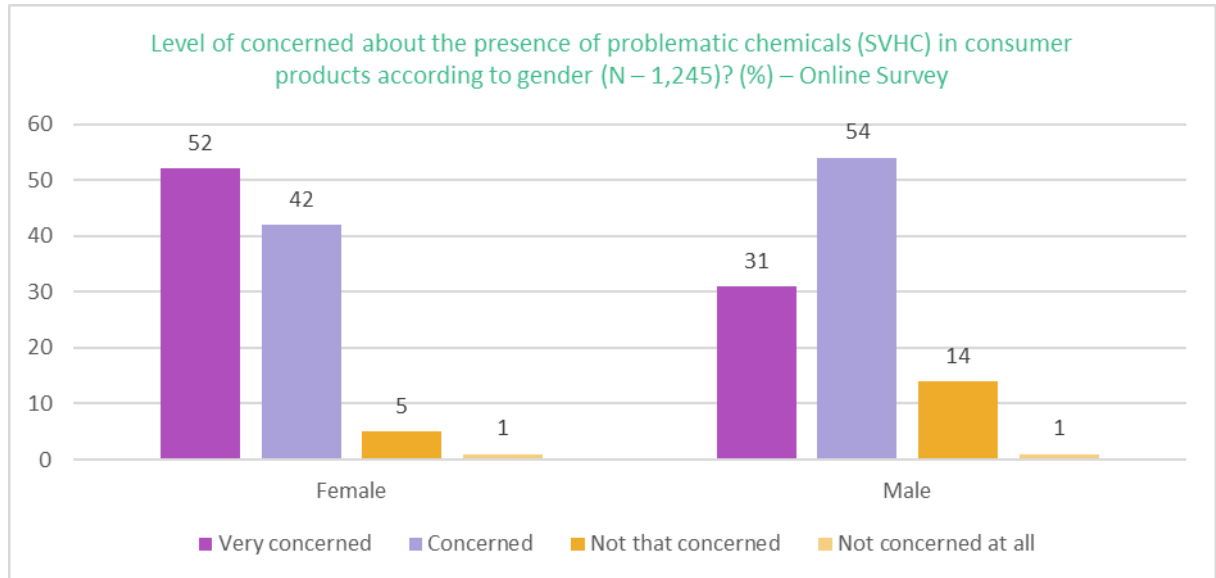


Figure 9 Level of concern about the presence of problematic chemicals (SVHC) in consumer products according to gender (N – 1,245) (%) – Online Survey

In terms of how to deal with this, the most common answer was to check for labels and the materials which the product is made of and do some research to look for more information. Checking apps was also mentioned, namely Tox-Fox and Scan4Chem. Other ideas were shared, like avoiding plastic products, buying second-hand, reducing consumption in general, washing the products before using them, especially textiles and clothes, or simply not buying or searching for an alternative.

Purchasing decision

A clear majority of respondents in the qualitative interviews indicated that they consider the presence of chemical substances as a relevant element in their purchasing decisions when buying articles such as clothes, shoes, toys, furniture etc. Most (71%) consider this aspect “regularly” or “mostly” related with specific products. Indeed, it is quite common for respondents to express differing degrees of concern about chemicals depending on the product. However, products that are used more frequently (such as clothing, cosmetics and especially food) raise more interest and concern, as do products intended for children. Those are also the most frequently scanned item categories next to kitchen utensils, shoes, and electronics.

For the remaining 29% of the respondents, the potential presence of chemical substances in articles is not a priority criterion when purchasing articles in daily life. This happens for a variety of reasons, including lack of

information or awareness about the risks and what to do about them, the price (the need to choose products that are cheaper and usually less sustainable), or even the recognition of the limited capacity that an individual person has to act and control such aspects of daily life.

When asked about the most important criteria they consider when choosing a product, respondents in the qualitative interviews referred to price and quality. Furthermore, they mentioned material, brand, durability, sustainability, and origin. When a brand is mentioned, this is often related to its known quality, its reputation or even because of fair trade issues. Quality is often linked with the durability of a certain product.

Among the respondents of the survey, 50% stated they would never buy an article that contains SVHCs, while 23% said it would depend on the product. For 18% of respondents, looking for an alternative would be the first option, but if they could not find

one, they would buy the article despite the presence of such substances. It is also worth noting that only 1% claim that despite having the information about the presence of SVHCs in an article, they would buy it as usual, which

shows that knowing about the presence of such substances in articles triggers the need for consumers to reflect on their purchasing behaviour, even if the final decision can vary.

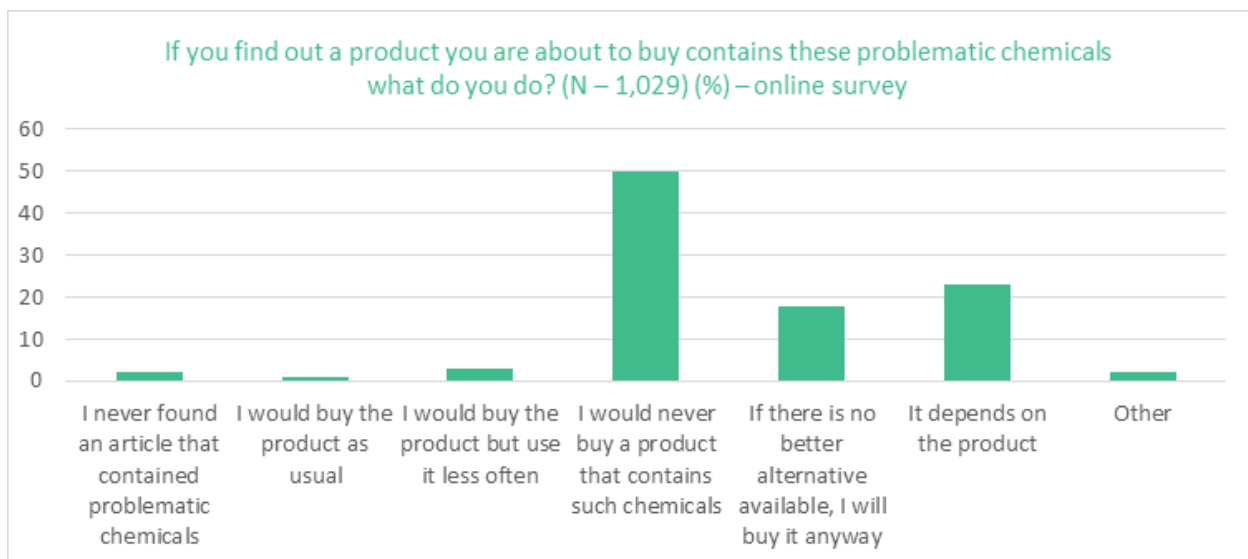


Figure 10 If you find out a product you are about to buy contains these problematic chemicals what do you do? (N – 1,029) (%) – online survey

Among those stating that they would never buy a product that contains SVHCs, it is more common to find women (54%) than men (39%). On the other hand, men are more likely to buy the product if no alternative is available (27% versus 18%).

Opting not to buy a product that contains SVHCs is also more common among people between 31 and 60 years old (53% from 31 to 45 years; 48% from 46 to 60 years), whereas younger people (38%) and older people (29%) tend to choose this option less often. Anyway,

considering that there are product categories which are probably not available not containing an SVHC at a concentration above 0.1% (e.g. cars, electronic devices), the question is how realistic this statement is.

Among participants, there is a widespread recognition of the influence of the project and the app on their shopping behaviour. Users acknowledge an increased awareness about chemicals in products, but are also conscious of the limitations of the app.

*“Yes, it has had an **influence on my knowledge** of categories of substances and made me **more aware** when looking for and **purchasing products**.” (31-45 years, Luxembourg)*

*“Yes, yes, yes. I think this is a plus of **knowledge towards being able to decide**, of course.” (+60 years, Spain)*

*“It influenced me in the case of **kitchen utensils**, now I would probably focus on **more trusted** and higher **quality products**.” (20-30 years, Czech Republic)*

*“They influenced a lot. **I was not aware that the problem** of chemicals was so present. Almost everything we come into contact with in our daily lives, be it packaging, batteries, treatment given to materials that may be natural, but are then chemically treated... it is an extremely widespread problem and **has definitely influenced the way I consume**.” (46-60 years, Portugal)*

Level of information

In the online survey, when consumers were asked how informed they feel about the presence of problematic chemicals in products, again the large majority of respondents felt they lacked information, with 21% considering they had no information at all, and 57% assuming that they were not well informed. Only 22% considered themselves to be well informed (17% were rather well informed and 5% very well informed).

*“Yes, I absolutely have. **But not just the app itself.** But to gain some knowledge that there may be some bad chemicals in goods. Once you find out that there is such a thing and hear about it in the media, you react.” (20-30 years, Sweden)*

*“Definitely! **I know exactly what SVHCs are,** to more details, I know more about them now. **I know, what I should do and avoid as a future mother.** I know that various organisations and legislations are working on this. **I learned it in a very simple way,** a way suitable for a layman.” (31-45 years, Czech Republic)*

*“Yes, this educational aspect of the app **made me think more carefully about my purchase decisions.** Now I don’t just look at whether a product is recyclable but I look a little deeper.” (20-30 years, Poland)*

The results from the third app survey also showed that almost three-quarters (71%) of the app users who participated in the survey had no previous knowledge of their right to know. The fact that 29% of respondents assume that they knew about their right to know previously from using Scan4Chem, shows that LIFE AskREACH campaign for consumers has had an impact, making media and social media the most common sources of information on this very relevant citizen’s right.

*“**I didn’t know** there were laws or some EU directives, but **as a consumer I felt this was something that should have been available to me.**” (20-30 years, Croatia)*

The results presented are similar to those of previous studies on these issues, showing great concern among Europeans about the presence of SVHCs in articles, the recognition of a lack

The interviewees gave very positive feedback about the project’s impact (not only the app) on their level of information and awareness. They stated that they would use the app as a tool among different strategies to raise awareness. The app is presented as relevant even for those with a background in chemicals. When asked if they found the app useful, some app users replied:

However, what also became apparent in both the Eurobarometer studies as well as the interviews, is that there seems to be a generic knowledge of the ‘right to know’. Not the specific right to know as it is laid down in REACH Art. 33, but rather a shared perception that producers and retailers have the general obligation to be transparent regarding the products they sell:

information, and although people are not very knowledgeable of their own right to information, they are mostly willing to act if they come into possession of such information.¹³

13 All results from the surveys and interviews can be found in the AskREACH impact assessment report on www.askreach.eu

5.2. Company / AskREACH database interaction

5.2.1 Societal and economic setting

In 2019, European enforcement authorities raised concerns about the inadequate compliance with the obligation to provide information according to Article 33 of the REACH regulation. During inspections conducted in 15 EU countries, they discovered that twelve percent of the inspected articles contained Substances of Very High Concern (SVHCs) (European Commission, 2020). Shockingly, a majority of the article suppliers (56%) failed to fulfil their duty to provide information or did so inadequately¹⁴.

One of the primary challenges faced by companies in complying with the information flow requirements along the supply chain is the complexity and length of the supply chains themselves (Kolehmainen et al., 2021). Supply chains can involve numerous stakeholders, including raw material suppliers, manufacturers, distributors, and retailers. Each step in the chain introduces potential difficulties in gathering and transmitting accurate information about SVHCs in articles.

Another obstacle faced by companies, particularly small and medium-sized enterprises (SMEs), is the management of substance information and legal compliance. SMEs often struggle with limited resources, both in terms of financial capacity and dedicated staff, to handle the complex requirements of the REACH regulation. Ensuring compliance with information obligations and keeping up with the regular updates to the candidate list of SVHCs can be particularly challenging for SMEs with constrained resources.

The dynamic nature of the article portfolio further complicates the task of managing substance information. Many companies have a wide range of products with varying compositions, which may include different articles and components. Keeping track of the presence of SVHCs in these diverse products and promptly updating the information can be a significant undertaking.

Furthermore, customized products pose additional challenges. If products are tailored to specific customer requirements, such as in the automotive or electronics sectors, the complexity of managing substance information increases. Each customization may require careful consideration of the materials used, their chemical composition, and the presence of SVHCs, further adding to the burden of compliance (Kolehmainen et al., 2021).

The reasons mentioned above highlight the complexities and resource limitations that companies face in fulfilling their obligations regarding SVHC information in articles. It is important to address these challenges through support mechanisms, guidance, and resources tailored to the specific needs of different companies, particularly SMEs. Promoting information-sharing platforms, providing educational resources, and encouraging collaboration among supply chain actors can contribute to improved compliance and the efficient management of substance information.

Additionally, enhancing transparency and traceability along supply chains can help identify potential gaps in the flow of information and enable more effective control of SVHCs. Digital solutions, such as blockchain technology, have the potential to streamline information management and enhance accountability throughout the supply chain (European Chemicals Agency, 2019).

It is crucial for companies to overcome these challenges and ensure the effective flow of information on SVHCs in articles to protect human health and the environment, as well as to meet the increasing demands of consumers and regulatory authorities for transparency.

¹⁴ European Chemicals Agency. (2019). Scoping paper: Blockchain in the context of the REACH Regulation. Link: https://echa.europa.eu/documents/10162/13655/scoping_paper_blockchain_in_the_context_of_reach_en.pdf

SCIP added a new legal obligation

In the course of the project, the amended Waste Framework Directive required the European Chemicals Agency to create the SCIP database and suppliers of articles containing SVHCs > 0.1% to enter this information. This legal obligation¹⁵ demotivated companies to associate themselves with another database that is voluntary; it would require additional resources at company level. Both databases serve the overall legislative aim of promoting

SVHC substitution in articles and foster compliance with REACH Art. 33. Both also target consumers and suppliers as recipients of the submitted SVHC article information. However, data collected in the SCIP database solely covers articles containing an SVHC on the Candidate List > 0.1%, while AskREACH also collects information on consumer articles with no SVHCs > 0.1%.

5.2.2 Project activities

AskREACH database

In the first project phase, the IT infrastructures of the AskREACH database were developed, with the back end and the supplier front end (interface) that allows companies to upload their information to the database. An admin front end and helpdesk tool were developed for regional administrators to access and manage the system. The findings from a testing phase with pilot companies were considered for the supplier front end.

The supplier front end was first available to European article suppliers (manufacturers, importers, distributors and retailers) in July 2019. It is a browser based, free of charge platform system. It has four main functionalities allowing article suppliers to:

- 1. Register with barcodes and other company information to the system
- 2. Manage article SVHC information (via the "Article Declaration" or "Barcode Range Declaration" tabs)
- 3. Manage and answer consumer SVHC requests
- 4. See statistics on SVHC requests

Consumers can retrieve information about SVHCs in articles via the Scan4Chem app, if article suppliers have saved their information in the database. In the "barcode range declaration" a supplier declares for a whole range of barcodes that the accompanying articles contain no SVHC above 0.1%. The supplier can also declare, if SVHCs are contained at concentrations > 0.1% for single articles/barcodes, or can bulk upload information for many articles.

In addition, the database contains over 14,000 company contact details. These include Global Company Prefixes (GCPs), i.e. the specific parts of the barcodes that belong to the companies. Every barcode consists of a country specific, a company specific and an article specific part. GCPs are essential to link a barcode to a specific company, so that the correct contact details can be displayed to the app user when scanning that specific barcode. Subsequently, the user can easily send an information request to the correct company. Care was taken to make it possible for suppliers that use proprietary barcodes (e.g. ALDI, H&M, IKEA), to associate themselves with AskREACH, so that their contact can be found by searching for the company name.

¹⁵ on the basis of the revised Waste Framework Directive

Campaign for companies

The final aim of the project is the substitution of SVHCs in consumer articles. Sub-goals were to motivate companies to upload information on SVHCs in their articles in the database and to promote awareness about suppliers' obligations related to the information concerning SVHCs. As part of the communications strategy the database was promoted as an opportunity to advertise articles that do not contain SVHCs above the threshold. It was also highlighted that the tool enables transparency.

National and European multipliers such as chambers of commerce, crafts and industry associations have been informed, project partners organised events and conferences, such as the "compliance digital" events and provided demos on the system's basic features. Due to the low number of requests to companies, the activities to raise awareness among article suppliers were of even greater importance. The project therefore put in considerable efforts and organised more

than 850 events, reaching at least 6,110 article suppliers to promote awareness of their REACH Art. 33 obligations and how AskREACH can support their implementation. Several communication channels were used to disseminate the information and to reach as many companies as possible (newsletters, social media, radio, direct emailing, etc.). The campaign also specifically addressed retailers, making use of the project awareness materials, info-days, open day events, targeted meetings, and training sessions.

Targeted communication included sending reminders to companies if consumer did not receive a reply. In these cases, consumers sometimes asked for support from project partners, and companies were contacted directly by a national project partner. In addition, companies that never replied to any consumer request were also reminded about their information duties.

Article tests

A random testing of articles on the presence of certain SVHCs had the original purpose of verifying the data entered in the database by companies. However, due to the interest from consumers, tests were also conducted on other articles on the market. It created a good opportunity to get into contact with companies. Five testing rounds took place during which a total of 299 articles were analysed. 74 articles were randomly selected from the AskREACH database, and 225 articles were purchased on the EU market. Only one tested article from

the database, was found to contain an SVHC above a concentration of 0.1% by weight. Of the randomly purchased articles, 74 contained SVHCs according to the tests. In 36 of these 74 articles, the SVHC concentration was above 0.1% by weight, which means these articles were subject to Article 33. 25 of the 36 contained SVHCs that have been further legally restricted and thus they should not have been available on the market.

Company awards

In 2022, suppliers of articles could apply for AskREACH awards by answering an online questionnaire. A jury established specific criteria to ensure the fair assessment of the responses from participating companies. It examined how chemical information is managed and the implementation of environmental and sustainability policies with regard to chemicals within the company.

The goal was to assess whether financial and human resources have been allocated for the implementation of such policies in order to address SVHCs in articles or to meet REACH communication obligations. Two companies were selected to be awarded as “Most SVHC aware retailer” and “Best supply chain communicator”. The jury also nominated runners-up for each category due to the close scores¹⁶.

5.2.3 Findings and conclusions

In order to review the current awareness levels of suppliers with regard to SVHCs in articles and related communications, online surveys were conducted in the AskREACH project partner countries and Serbia in the years 2018 and 2019¹⁷. The majority of the enterprises (56%) in the survey described themselves as small or medium-sized enterprises. Most frequently represented sectors in the survey were textiles, clothes, shoes and accessories, electronics and domestic articles. The participating companies were not representative of the actual distribution of companies in the participating countries, so that it is not possible to draw generalised conclusions.

Nevertheless, the survey results do show trends about REACH Art. 33 implementation:

Survey findings among suppliers confirm concerns that a large proportion of companies are not well-prepared to respond to consumers ‘right to know’ requests. Of 183 participating companies, 42% had already received ‘right to know’ information requests from consumers. Of the companies that had received requests, nearly half did not have the information required to provide an immediate response. Almost half of the participating companies (46%) agreed that it is technically complicated to meet the obligation to inform consumers about substances in articles.

IT solutions for data management

Different databases and sector-based solutions existed before the start of the project. These mainly foster the communication along the supply chain (see section 5.3), which is also a precondition for companies to have the information available in case of a consumer request. The survey showed that 42% of the participating companies had no IT solutions to collect and manage information on SVHCs in articles. The majority of the companies who employ IT-solutions used MS Excel (41%). There were no significant differences between SMEs and large enterprises.

Back then, around half of the companies (48%) believed that a tool such as Scan4Chem and the AskREACH database can support companies when implementing REACH Art. 33(2). There was disagreement whether the planned app and database can reduce costs of communications, especially if the number of requests increases substantially. 34% of the companies were not expecting cost reductions, while 30% did and another 30% said ‘maybe’. When asked if they wanted to upload information to the AskREACH database, 27% said yes while 30% reported they would not upload SVHC information.¹⁸

¹⁶ <https://www.askreach.eu/askreach-company-awards-winners-and-finalists/>

¹⁷ Schenten, Fonseca & Schönborn (2019)

¹⁸ Schenten, Fonseca & Schönborn (2019):

The database in numbers

Near the end of the project, 349 suppliers had registered to the AskREACH database. Only some of them uploaded article information, GCPs or barcodes. Nevertheless, there are about 50,000 articles in the database and information on 8.5 million barcodes (April 2023). However, probably not all of the 8.5 million barcodes can be attributed to an existing article on the market. Companies reported that they got few requests from consumer – making it easier to answer directly instead of entering all data to the database and keeping it

up to date continuously. Although the supplier front end was made in a way to simplify the companies' work on registering and providing information about their articles, companies still find it difficult to allocate resources for such a task especially when there is no pull-effect by consumers. Direct emailing of companies or direct contact through events often led to a first positive reaction. However, the reaction did not always result in a registration in the database or uploading of article information.

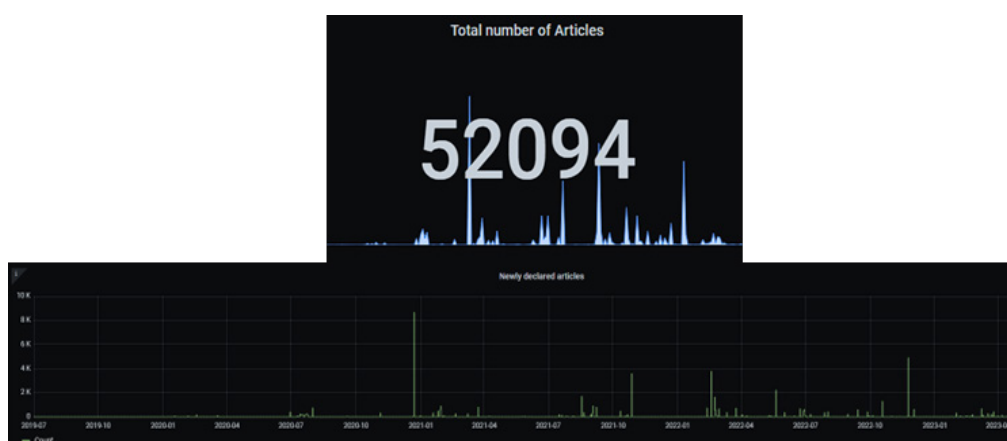


Figure 11 Number of articles declared in the database by suppliers (6.04.2023)

5.3. Supply chain communications

5.3.1 Societal and economic setting

According to ECHA's 2021 report on the operation of REACH, "A small-scale inspection campaign by Member State inspectors in 2017 and 2018 checked nearly 700 consumer articles... Inspectors found that in 89 % of cases the suppliers did not communicate information down the supply chain about the presence of Candidate List substances in articles, so the information cannot be passed to consumers when requested"¹⁹. This may be due to several factors, such as a lack of awareness of companies regarding their obligation to communicate on SVHCs under REACH, and the fact that article supply chains are complex, global, and involve a high number of duty holders. Enterprises might have a highly dynamic product portfolio or manufacture individual consumer fit products. If one actor in the chain fails to communicate, all subsequent actors are unable to fulfil their requirements, unless they conduct their own chemical analyses to measure the content of SVHCs. Companies appear not to acknowledge the benefits of knowing the SVHC content in their articles and hence lack incentives for communication. Finally, according to ECHA, consumers are unaware of their right to ask for information on SVHCs in articles. If they do not ask, an important incentive to communicate along the supply chain is missing.

19 ECHA (2021). Report on the Operation of REACH: Operation of REACH and CLP. DOI 10.2823/041059; P. 75

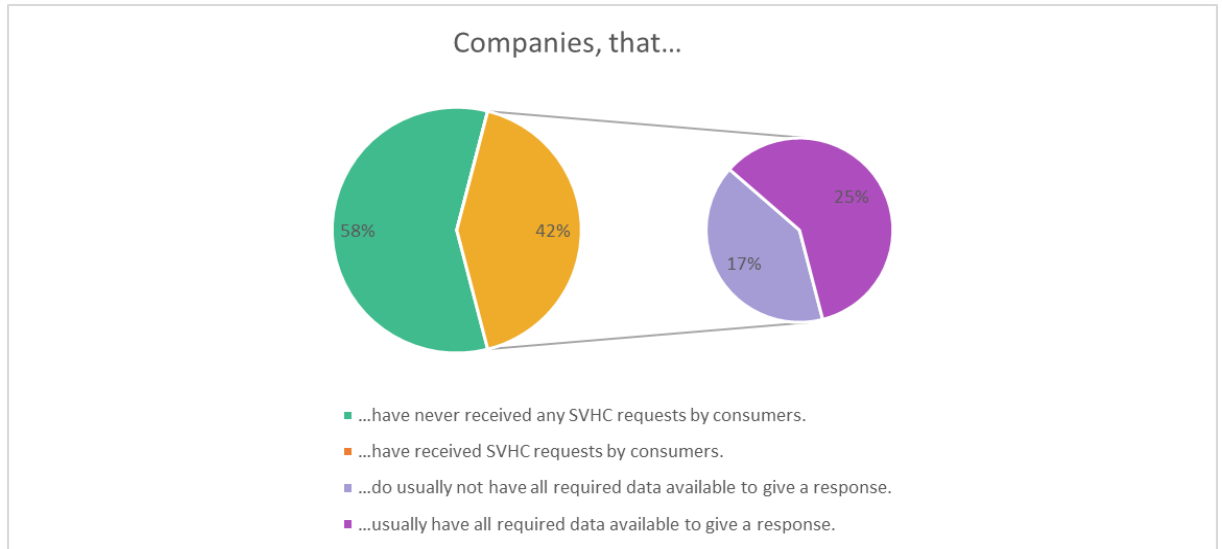


Figure 12 Companies having received SVHC requests and their ability to give adequate responses (Baseline survey companies, N=183)

The online survey by AskREACH project partners among 183 suppliers found that nearly half the companies that had received a request did not have the information required to provide an immediate response (Figure 12). This may be linked with the finding that 42% of the surveyed companies had no IT-solution in place to collect and manage information on SVHCs in their articles. Moreover, almost half of the participating companies (46%) agreed that it is technically complicated to meet the obligation to inform consumers about substances in articles²⁰.

To collect information on problematic substances, companies use several options. Most companies, regardless of company classification, require such information from their suppliers. Especially large enterprises include provisions in contracts to ensure that suppliers provide the relevant information. This commonly involves restricted substances lists (RSLs) or manufacturing restricted substances lists (MRSLs), for which suppliers provide general statements of conformity.

Those declarations, however, only report about article properties on the date of delivery: They only refer to the substances listed on the RSLs/MRSLs by this date. However, the SVHCs Candidate List is extended every six months. Consequently, companies would have to request new declarations of conformity from their suppliers every six months in order to be able to respond appropriately to requests from consumers. In order to verify whether the information of the statements provided is correct, a common option is to ask for supporting documents (for example: test results). Nevertheless, 34% of the 183 surveyed companies stated that they feel 'more or less' informed about SVHCs in their articles, 19% feel even less informed than that. Almost 40% of the companies did not have the necessary data to provide an answer when asked about substances of very high concern.

Currently, the difficulties felt by European consumers in accessing information on the presence of SVHCs in articles are also felt along the supply chain, where companies complain that they do not have easy access to detailed information on chemical substances being used.

20 Schenten, Fonseca & Schönborn (2019)

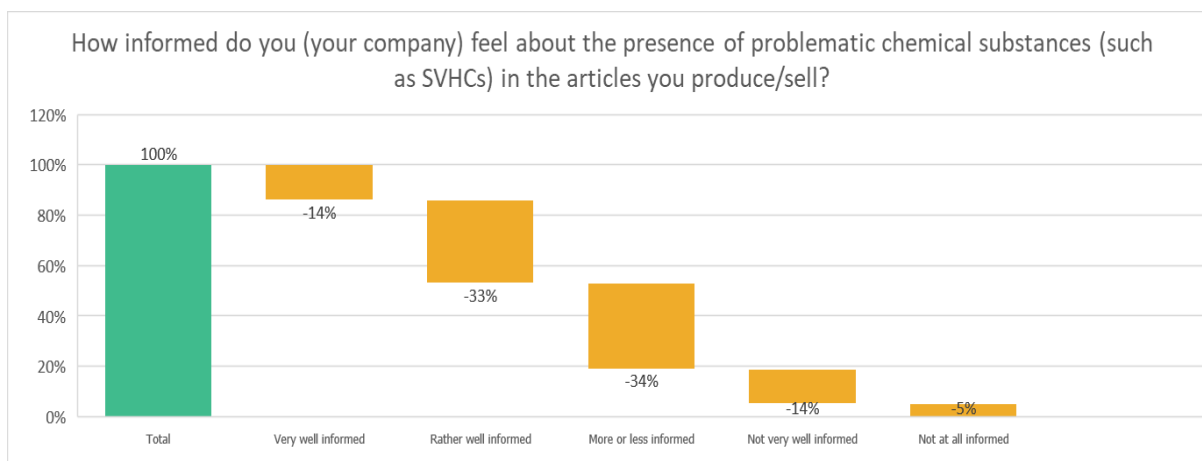


Figure 13 Companies' perceived level of information about the presence of problematic substances in their articles (Baseline company survey, N=183)

5.3.2 Project activities

To tackle the challenges in the supply chain communication, the project set the following goal:

Support industry by establishing proactive SVHC data flows in the supply chains, using state-of-the-art IT solutions towards chemicals' traceability and related governance approaches.

Traceability of chemicals means the capacity of companies to trace back chemicals present in articles.

The activities of this action started with research and benchmarking of existing tools and approaches for companies to manage their supply chain. Interviews with companies of different sizes about their needs to make SVHC reporting most efficient were the base to determine IT requirements. After the procurement of a commercial IT tool, case studies of the traceability approach were conducted with companies from different sectors²¹.

To involve companies in the supply chain action, partners reached out to suppliers to inquire about their knowledge of REACH Art. 33 obligations and how AskREACH could support them. Actions included conferences, webinars and industry newsletters. Furthermore, partners got in contact with individual companies from various sectors to inform them about the supply chain action and how traceability can support their supply chain communication management.

To this end, the partners approached at least 750 companies inviting them to use the Supply Chain Action Tool. The IT developer providing the tool offered a limited number of free licenses from March 2020 until August 2022. Six companies agreed to participate in the pilot run of the IT tool. Four case studies were completed by the end of the project.

The benchmark study showed that traceability of substances in articles is necessary for companies to know the chemicals in their articles. This means suppliers provide a Full Material Declaration (FMD) for the articles/their components down to basic substance level (reported by weight of the material).

Figure 14 shows how the Supply Chain Action Tool implemented this approach. The company sends a request to its supplier. The supplier enters the available information in the Supply Chain Tool database or forwards the request to its own suppliers. They can now enter the information they have or pass on the enquiry. This is repeated until all the information on the article for which the company made the initial request is available. Only companies and their direct suppliers participated in the AskREACH Supply Chain Action case studies. In some cases, however, one supplier covered several steps of the supply chain.

²¹ <https://www.askreach.eu/supply-chain-tool/>

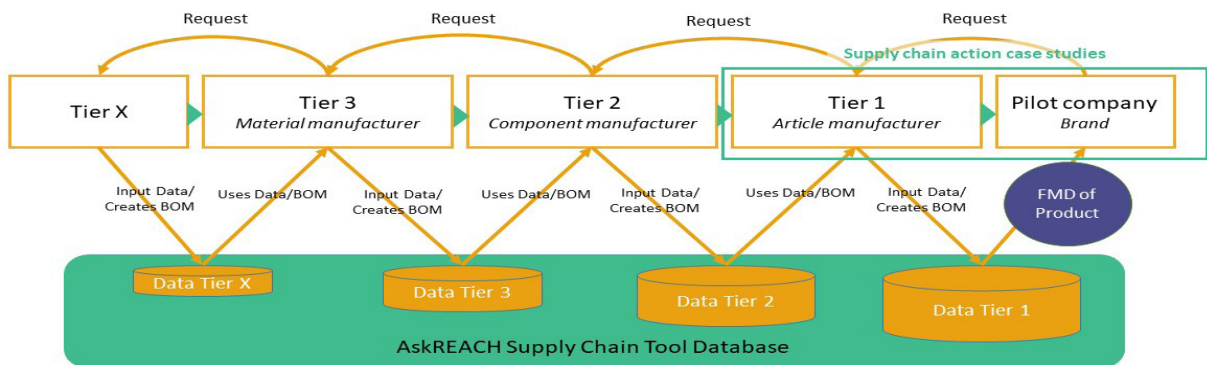


Figure 14 Supply chain action traceability approach

The purpose of the tool is to generate a structured tree of all materials present in a certain final article (bill of materials, BOM), which is usually a complex object that incorporates more than one individual article. The data suppliers therefore add the structure following the different stages in the article assembly process of an article, for example from material (e.g. cotton), to semi-finished components (e.g. fabric), further processed components (e.g. after machining, coating), to incorporation in the final assembled article.

As a rule, all data suppliers must report all substances present in articles (FMD). At the same time, suppliers may make use of “wild cards”, i.e. up to 10 % of substances per article need not be disclosed in order to protect justified confidential business information. However, the “wild card”-function is not available for substances included in the list of declarable

and prohibited substances (RSL). Thus, in any case, suppliers must report substances that are contained in the Restricted Substances List.

The tool then compares the BOM to RSLs, chosen by the data recipient. To this end, data recipients can see at a glance if and where its articles contain listed substances. This also applies if requirements in the lists change in the future (e.g. the extension of the SVHC list every six months).

The activities of the AskREACH Supply Chain Action resulted in six case studies with companies from different sectors: Textile, footwear and electronics. It is important to mention that two of those case studies were not completed during the duration of the supply chain action. Nevertheless, the findings that emerged from these studies are relevant to the results.

5.3.3 Findings and conclusions

Case studies

The six companies (with their suppliers) participating in the pilots concluded that the traceability approach of the tested tool is less complex and easier to work with than expected. The suppliers interviewed estimated the time required for data entry for the case studies at around 15 hours for one article. It should be kept in mind that these were simple case studies with relatively simple articles.

The pilot companies recognize the potential benefits of the approach. If they know all the chemicals present in their articles, they are able to monitor regulated substances, e.g. SVHCs. Thus, they can easily meet existing requirements and contractual obligations. In addition, they are prepared for future requirements and obligations. The Supply Chain Tool tested in the project provides for plausibility checks of supplied data

and supports supplier evaluations (determining the risk that suppliers deliver articles containing an SVHC or that are wrongly declared). Having

this kind of information readily available reduces testing needs and thus allows for cost reductions. One company stated:

“The benefit of the tools lies in the full declaration. This saves time for me when reviewing newly regulated substances and I do not need to request existing articles again, unless there are fundamental changes (e.g. change to other plastics).”

Nevertheless, almost all case studies came to a halt at one point or another. It was often hard to find suppliers who were willing to participate in a case study. During the case studies, it was difficult to get the suppliers to enter all their information in the system in the required place.

In view of the lack of motivation from the industry, the practical implementation of the case studies addressed another operational level that was less detailed than initially planned. The case studies therefore rather showed the general feasibility of the traceability approach.

Traceability approach

The supply chain action activities showed that the traceability approach is feasible. However, many companies are either not aware of their REACH Art. 33(1) obligations, which may include active organisation of information flows, or do not prioritise them. Suppliers have a major responsibility to collect their information and make it available in the system. In many cases, this is admittedly not an easy task. There are multiple factors that affect article information flow along the supply chain. A key factor is the lack of resources for suppliers; small-medium enterprises (SMEs) may lack qualified personnel to deal with article information and REACH, or larger companies may have extensive portfolios of products. Moreover, the combination of article complexity (objects with thousands or millions of components that are procured from different suppliers) and the dynamic nature of the REACH Candidate List with SVHCs being added biannually (which means that article information has to be constantly updated) make the task of keeping information flowing along the supply chain an extremely resource intensive task for companies. A serious display of interest on matters of SVHC presence in articles on the part of consumers (i.e. suppliers receiving a large number of information requests that had to be answered) could tip the scale for suppliers to invest resources. However, this has not been the case so far, even though consumer awareness has risen. Thus, it remains much more resource efficient for suppliers to respond to a few information requests than upload their article information in a database

and keep it constantly updated.

With regard to the uptake of the traceability approach, AskREACH identified the following motivational impediments:

- An understandable reluctance to commit to a fundamental revision of existing chemicals’ management routines.
- Bias towards familiar IT tools. Chemicals reports still often use MS Excel, although more sophisticated software could offer increased efficiency.
- Actors tend to analyse problems from an individual standpoint, underestimating the crucial role of cooperation and other context factors.

The change to the traceability approach is a very difficult process that requires a gradual implementation. Formats for supply chain actors are needed to allow engagement in a traceability approach. It is important for actors to get on the same page and understand the leverage instruments. In the end, sector specific harmonised forms of traceability are possible.

Nevertheless, a momentum for traceability is now building among companies and society, driven by the goals and initiatives of the Green Deal. In addition, the activities of the AskREACH supply chain action were one trigger for the Proactive Alliance²², a key player driving cross-sectoral governance of substances in the communication of articles.

22 www.proactive-alliance.info

6. INTEGRATION INTO POLICY DEVELOPMENTS

REACH interlinks with the Waste Framework Directive

When the project started back in 2017, it focused on addressing the identified legal gaps of the REACH regulation and specifically of Article 33. Even though REACH is more than 15 years old, it still remains one of the centrepieces of legislation to date. During the last two years, REACH has been undergoing a revision process which should be released by the end of 2023. AskREACH actively followed this process by bringing together policy stakeholders in live or online events and providing tangible input from project experiences. A letter²³ presenting the legal issues behind Article 33 and suggesting policy options and new strategies was formulated by the consortium and sent to the European Commission during the course of the project. This information was also fed into the public consultation procedure during the REACH revision process.

The amendment of the Waste Framework Directive which came into force in July 2018 and established the SCIP database provided an incentive to work closely with ECHA to the benefit of consumers and companies alike. During the following years, the SCIP database unexpectedly proved to be a competitor to the AskREACH database, rather than a co-facilitator.

The two teams (SCIP and AskREACH) came into contact from the beginning to improve development by sharing experience and to explore synergies between the two systems, aiming primarily at simplification and saving resources.

Since SCIP would gather under the WFD all information on articles containing SVHCs above 0.1% w/w and only those, AskREACH focused primarily on promoting the “good” article information for companies – namely, the articles without SVHCs – as an indirect marketing opportunity. Nevertheless, finding common ground for development proved more complex than anticipated. Several important impediments were identified that necessitated the separate development and existence of both databases. Information requirements differ between the two databases. The SCIP database does not focus only on off-the-shelf consumer articles, like AskREACH, but also on intermediate components. At the same time, it serves the additional purpose of disseminating information to waste handlers, treatment operators, and recyclers. Submission of SVHC article information is not obligatory for AskREACH. The legislative nature of SCIP distinguishes it from AskREACH, e.g. for SCIP, a harmonisation for data submission is required at Member State level, while enforcement of the obligation to submit information is also a task for Member States. In the end, the only common ground that was identified was the possibility of providing access to SCIP data through an interlink between the two systems, in order to be able to disseminate information towards consumers directly via the smartphone app. Regrettably, this has not yet been realised. In addition, consumer relative information and identifiers (barcodes) are usually missing from SCIP article dossiers, which adds a degree of difficulty to such a development. However, this does not lessen the added value of consumers getting direct and simplified access to SCIP data.

23 <https://www.askreach.eu/wp-content/uploads/2022/04/LIFE-AskREACH-letter-to-COM.pdf>

Impulses from the Green Deal

In 2019 the European Green Deal (EGD), a central piece of policy strategy was delivered by the European Commission (Figure 15). It is a huge package of cross-sectoral policy initiatives that revives the goal of a resource conserving, climate neutral and non-toxic circular economy. EGD and the various initiatives foreseen within it also aim to empower consumers (sustainable products initiative; empowering consumers initiative), to strengthen the effective implementation of REACH and the EU chemicals policy (EU Chemicals Strategy for Sustainability; Restrictions Roadmap; REACH revision) and set the scene to strengthen the protection of Europeans and promoting more transparency and access to information.

The European Green Deal and its Zero Pollution Ambition

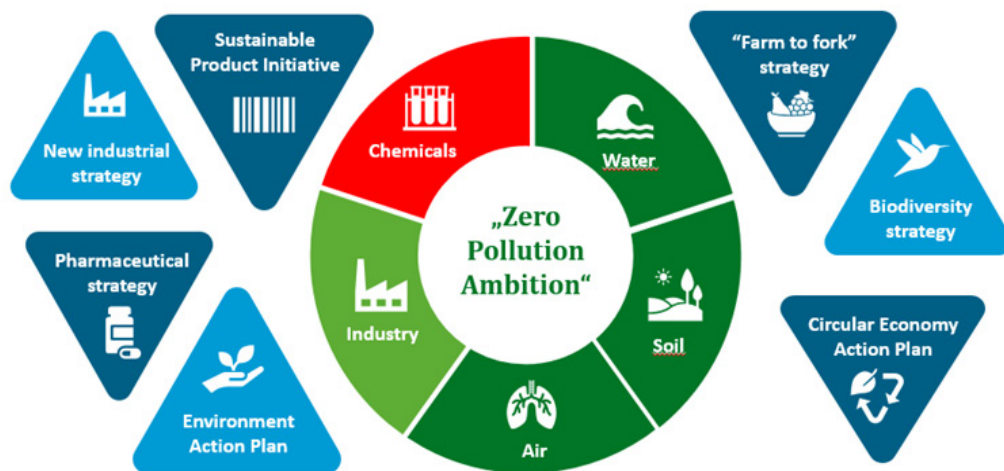


Figure 15 The Zero Pollution Ambition of the European Green Deal and related strategies

Consequently, the Circular Economy Action Plan states the need to set up "harmonised systems" to track and manage information on substances; as a means to communicate such information, a recent proposal for an Ecodesign for Sustainable Products Regulation introduces a Digital Product Passport. Policies implementing the Green Deal²⁴ directly or indirectly touch upon the issue of traceability. They are developed in parallel to each other, and it is challenging to anticipate the impact and interplay across the policy fields. Thus, it is critical to gain a thorough systemic understanding of how the building blocks may interact to create the required traceability of chemicals – and how this translates into benefits for the actors along circular value chains.

Against this backdrop, participants from industry, administration, research and civil society met for a LIFE AskREACH policy workshop in Brussels on May 31/June 01, 2022.

The workshop aimed to explore how Green Deal policies influence each other in order to gain a better understanding of the necessary steps towards the vision of a non-toxic, resource-preserving, and climate neutral circular economy. In addition, the process of the workshop should motivate the participants to carry the insights forward in their area of responsibility and to initiate concrete change processes towards the commonly shared understanding of challenges.

24 Cf. Circular Economy Action Plan (CEAP), Chemical Strategy for Sustainability (CSS), Sustainable Product Initiative (SPI)

The process and results are documented in a workshop report.²⁵ One key outcome of the process is that the participating organisations, representing many different interests and sectors, agree that traceability of chemicals is a key enabler for the circular economy. In order to implement this vision, specific steps have been defined for the legislators and industry to set frameworks that assure the information flow throughout the entire circular value chains and that in each step information is collected and provided targeted to specific needs of the respective actors, ranging from downstream businesses over consumers to authorities.

The AskREACH final conference²⁶ that took

place on January 2023 focused on presenting the scope and results of the project, but also fueled a policy discussion regarding the implementation of Article 33 in the context of the REACH revision and placed the project output at the heart of the emerging policy initiatives and strategies under the framework of the Zero Pollution Ambition of the EGD. The prospect of new IT tools to amend the existing legislative gaps was discussed, e.g. the Digital Product Passport of the upcoming Ecodesign Regulation. Online trading (under the Digital Market Act) was also presented, with the difficulties in establishing an information flow and the issues that stem from it.

Harmonisation

During the project, the supply chain action team engaged with the Proactive Alliance, in which representatives from different sectors of industry and trade - including automotive, chemicals, childcare articles, electrical and electronic, furniture, home textiles, and sporting goods - are working together.²⁷ The group acknowledges that the more data demands are based on a common understanding, the stronger is the voice of the various sectors in obtaining a sufficient level of information from their suppliers. The Proactive Alliance strove to reach a cross sectoral harmonization on how to report on substances in articles along the supply chain on a global level, while allowing for traceability. The group achieved its mission and released a Discussion Paper with Technical Recommendations in 2021.²⁸

The report discusses options for the harmonisation of criteria for Substance Reporting Lists (SRL) and harmonisation of material reporting standards. It is the vision of the group to ensure that any standard not only supports Regulatory Compliance Declarations (RCD) for regulatory obligations but is also compatible with reporting based on FMD, with a view to reducing the burden of complying with regulations on hazardous substances and creating values.²⁹ During its working period, the Proactive Alliance already supported the IPC-1752 standard to evolve into a global cross-sector standard which is applicable to articles across all industry sectors. In particular, Proactive Alliance members have contributed to the development of the IPC-1752B standard that allows any company in any industry to exchange information with their supply chains in a format which matches the data requirements of the ECHA SCIP database.³⁰

25 Schenten et al. 2023.

26 <https://www.askreach.eu/art-33-reach-a-right-to-know-not-a-right-to-ask-final-conference-takes-stock-after-more-than-5-years/>

27 See www.proactive-alliance.info

28 Proactive Alliance 2021 [<https://www.proactive-alliance.info/our-progress>].

29 Proactive Alliance 2021, p. 11.

30 Proactive Alliance 2021, p. 34.

7. SUMMARY AND CONCLUSIONS

The LIFE AskREACH project was nominated as the best LIFE proposal of 2016 for good reason. The project carried an impact to stakeholders on different levels:

- consumers were more aware about the presence of chemicals in articles,
- the right to ask for this information was highlighted to consumers and a modern and direct way to achieve this at EU-level was provided,
- the industry became more aware of their obligations, and incentive was provided to share article information with their suppliers/customers, all while helping suppliers to achieve this with IT solutions.

The project implemented a central European IT system for business-to-consumer communication in terms of REACH Art. 33(2) regarding SVHCs in articles: the smartphone app Scan4Chem for consumers that is linked to a database with article information. With the smartphone app, consumers can scan articles using the barcode. The scanning can then be the trigger for one of two events. Either the app immediately shares with the user the data on the article available in the AskREACH database, with information on whether SVHCs above 0.1% w/w are present and safe use information in accordance with Art. 33 of REACH. Or, in most cases, the app informs the consumer that no information is available and offers to send a request. Suppliers have the legal duty to inform the consumer upon request only if the article contains SVHCs above 0.1% w/w.

To send a request, it needs to be addressed to the supplier of the article in question, i.e. contact data are required. In order to feed the database with contact data, suppliers can actively register for the database and leave their contact address. In addition, the AskREACH partners manually added contact addresses. If no contact data is available, the users need to research for the data if they want to send a request.

Requests sent via the AskREACH system highlight to suppliers the benefits of uploading article data, whether it contains SVHCs or not, to avoid

receiving multiple requests for the same article from different consumers. Suppliers uploading article data need to keep the information up-to-date, particularly considering the biannual addition of new SVHCs to the candidate list. The project offered several options to facilitate bulk uploads of article data. For very large quantities of data, it offered barcode range declarations. This tool allows a company to declare large quantities of articles that do not contain SVHCs above 0.1% w/w, not by uploading specific article data but by linking this information to whole ranges of barcodes.

Comprehensive awareness-raising campaigns aiming for consumers and companies accompanied the introduction of the system.

Until the end of the project (31.08.2023), the consumer app Scan4Chem had been downloaded more than 146,500 times in Europe and 50,000 requests about SVHCs in articles were sent. The project achieved a very high profile, reaching up to 45 million European consumers online and offline. In order to raise awareness among article suppliers on their REACH Art. 33 obligations, the project organised more than 850 events, reaching at least 6,000 article suppliers. The AskREACH database that is associated with the app contains over 52,500 articles and information on 12.5 million barcodes.

In the supply chain action, the six pilot companies (with their suppliers) that used the Supply Chain Tool were able to confirm that the traceability approach of the tested tool is feasible and easier to work with than expected. Traceability of chemicals means the capacity of companies to trace back chemicals present in articles. However, many companies are not aware of their obligations under REACH Art. 33(1) and (2), which may include active organisation of information flows, or they do not prioritise them due to motivational impediments. Still only every second request is being answered, even though suppliers have been educated through campaigning activities about their "duty-to-tell". The gaps between information provision, chemical safety and consumer expectations remain wide.

Surveys and interviews showed that consumers have high expectations for safety of products due to the EU regulation on chemical safety, and they express astonishment when they realise that products they use every day, including some that can be used by children, may contain substances of very high concern. This reality check can have detrimental effects on how Europeans think about the EU and on how safe they feel in their consumption choices. This is a particularly sensitive subject, considering that the presence of substances of very high concern in an article cannot be evaluated by Europeans directly or through their natural senses, but need mediation, either by having access to information or by a preventive intervention making articles safe by design. Since this intervention is not yet a reality, Europeans can only count on having access to information to be able to make more informed choices. Unfortunately, the conditions of Article 33, in particular the possibility of producers, distributors, retailers to respond in a 45 days' timeframe and, in particular, the fact that the feedback is only mandatory if the article actually contains SVHCs above the threshold level, makes Article 33 inadequate to meet its goal of informing and capacitating Europeans and to bring them a sense of safety that they lose when they realise SVHCs may exist in daily products. All this context, together with the low participation of companies in making the data on their articles available in the database, has contributed to a lower-than-expected use of the app.

Despite the difficulties in acting on Article 33 due to its conditions (up to 45 days to get a response; no obligation to give an answer if there are only low concentrations of SVHCs in the article), the app users recognise that the project has contributed to improving knowledge and providing tools to be more conscious when making purchases. This should, at the best, lead to a market change by increasing the availability of SVHC-free articles and fewer articles containing SVHCs; i.e. production and use volumes of SVHCs decrease with decreasing sales. Companies are stimulated to communicate SVHC information in their articles and, in order to maintain their market shares, will replace SVHCs with less hazardous alternatives.

Nevertheless, it became apparent that to be able to activate a larger number of Europeans it would be important to have measures with a lower burden on consumers than the one posed by Article 33. Providing immediate feedback and having information available when requested by consumers is fundamental in order to guarantee higher participation and activation of the 'right to know' in the EU.

The project scope also encompassed policy developments that emerged after the project had already started: the amendment of the Waste Framework Directive and introduction of the SCIP database, the release of the EU Green Deal and the subsequent Chemical Strategy for Sustainability, the revision of the REACH Regulation, etc. At the same time, it sought to tackle the well-established gaps in the REACH Regulation concerning SVHC article information flow, as well as other legislative areas that were identified along the way (e.g. Digital Markets Act for online marketing, the upcoming revamped Eco-Design Regulation, etc.).

The project's implementation was strongly influenced and partly inhibited by *force majeure*. The COVID-19 pandemic, as well as the war between Russia and Ukraine, have severely affected campaigning and the use of the AskREACH tools on-the-spot by consumers and businesses alike. Major limiting factors include disease control measures, such as shop closures and lockdowns, and increased costs of living due to the war.

Other developments that added to the implementation difficulties included the necessity to alter the IT tools architecture. The initial assumption that AskREACH would be able to use contact data of companies from the GS1 GEPIR database did not materialise. The SCIP database, introduced by the amendment of the Waste Framework Directive in 2018, proved eventually to be more of a competitor rather than complementary to AskREACH. The voluntary task of uploading information on SVHCs to the AskREACH database now seemed redundant compared to the obligation of the SCIP database. AskREACH worked hard to explore synergies between both databases and establish interlinks. However, until at least 2024, a connection between the two systems is not foreseen.

8. OUTLOOK

The IT tools will continue to be supported in all countries involved in the project to keep open communication lines between consumers and suppliers. Additional replication countries will follow in the next years to make the Scan4Chem app available to more EU citizens. Discussions with the European Commission and ECHA will continue in the hope that article information from the SCIP database may also become available through the smartphone application in the future.

Other projects already plan to utilize the AskREACH tools and output:

- LIFE Chembee³¹, a project that aims to increase awareness of end-users about harmful substances in products used in our daily life by reaching out to millions of people by campaigns and via project partner networks. The goal is to substantially change consumption patterns and to lead in the long-term to concrete emission reduction of some problematic substances.
- Toxic Free Future campaign³², which works to create a healthier tomorrow by fostering the use of safer products, chemicals, and practices through advanced research, advocacy, grassroots organizing, and consumer engagement.
- Interreg NonHazCity3 Project³³, which tackles the challenge of hazardous substances in buildings, building sites, and building materials.

The AskREACH concept of using technology and IT tools to assist with proper EU legislation implementation, to raise awareness on both sides – consumers and industry – and open article information flow channels in-between, as well as promote substitution of substances of concern in articles shows that there are ways to indirectly bridge the identified gaps in EU legislation. New strategies and initiatives towards the Zero Pollution Ambition can only benefit from the LIFE AskREACH project experiences.

31 <https://webgate.ec.europa.eu/life/publicWebsite/project/details/101074245>

32 <https://toxicfreefuture.org/>

33 <https://interreg-baltic.eu/project/nonhazcity-3/>

9. REFERENCES

European Chemicals Agency/ECHA (2019): Forum Pilot Project Substances in Articles Project Report Harmonised Enforcement Pilot Project on Substances in Articles. DOI: 10.2823/846508. [Link](#)

European Chemicals Agency/ECHA (2021): Report on the operation of REACH and CLP 2021. Helsinki, Finland. DOI 10.2823/041059

Kolehmainen, M., Laukkanen, M., & Autere, A.-M. (2021). Identification and management of hazardous substances in supply chains: Case studies from Finnish industry. *Journal of Cleaner Production*, 290, 125-135. doi: 10.1016/j.jclepro.2020.125135

LIFE AskREACH letter to European Commission, 2022. [Link](#)

Proactive Alliance (2021): Discussion paper with technical recommendations, [Link](#).

Schenten, Fonesca & Schönborn (2019): Awareness and communication on SVHCs in Articles, Survey among consumers and article suppliers. [Link](#).

Schenten, Niebler, Führ (2023): Traceability of Chemicals in Products for a Non-Toxic, Resource-Preserving and Climate Neutral Circular Economy Policy, Workshop for a Theory of Change as part of the Life AskREACH project. [Link](#).

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