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# Report on producer perspectives on chemicals in consumer goods

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ChEmiTecs

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## **Abstract**

This report is based on a survey conducted among producers of consumer goods from five different product categories namely, Electronic goods, tires, textiles, shoes and PVC flooring. In total, 90 interviews were conducted by telephone with individuals responsible for the handling of chemicals in the workplace. The interviews covered ten sections including risk assessment, communication and risk perception. Results indicate that producers have access to the information needed in order to perform reliable risk assessments; have a good communication with their customers, and are content with the current regulation of chemicals. The national goal of a non-toxic environment is however not used to a great degree, making the relevance of this goal for industry a question for further research.

## 1 Introduction

Understanding what risks are associated with chemicals that emit from consumer goods is a daunting task, and one that requires much additional research. However, producers of consumer goods do take steps to decrease possible risks with their products to the extent they can. In order to do this, producers need to receive information about risks with chemicals that they might use and learn about what tools they have to work with in order to reduce or replace these chemicals. Examining how producers perceive and reason regarding possible risks is an area that needs to be further explored since these are actors that can make a difference when it comes to reducing risks to consumers.

The aim of this study was to investigate how producers perceive and act when it comes to potential risks with chemicals in the goods they produce. For this purpose, a telephone survey with 101 producers was conducted. The producers are representatives from five types of consumer goods that can be suspected to contain chemicals or substances that can be potential risks – although this is far from proven. The five product groups are:

- Electronic goods
- Tires
- Textiles
- Shoes
- PVC flooring

This selection of consumer goods is based on the results from project 2 within the Chemitecs research program, with one exception. Within project 2, concrete is one product identified as containing potential risks. Finding consumer goods that contain concrete are difficult, so shoes were selected instead.

## 2 Method

A total of 90 producers were selected using a list of producers grouped after production codes (SNI-codes) provided by Statistics Sweden. TNS Sifo was engaged in order to collect data based on our survey.

The survey consisted of ten sections:

- Information about the company
- Information and updates on chemicals used in production
- Regulation
- Substitution
- Risk assessment
- Information/communication with customers
- Factors influencing reduction of risk
- Governmental goal of a 'Non-toxic environment'
- Rate risk for products

In total, the respondents answered 66 questions. Since the interviews were conducted by telephone, this increased the internal response rate since the respondents were encouraged by the interviewer to give a response.

### 3 Results

In this section, the results for all producers are presented. For the interested reader, results divided into specific producer groups are presented in the appendix as only a few differences between producers are presented here. However, it can be noted that statistical analysis of the material does not reveal any significant differences between the producer groups.

Responses such as 'Unsure' and 'Do not know' have been excluded from this summary, explaining why the percentages sometimes do not add up to 100.

#### 3.1 Information on company and respondent

The distribution of the producers can be seen in Table 1.

Table1. Distribution of producer groups

Product	%
Electronic goods	17.8
Tires	31.7
Textiles	31.7
Shoes	12.9
PVC flooring	5.9

The respondents were either responsible for the handling of chemicals at their company (67.3 %) or responsible for the environmental work (32.7%).

#### 3.2 Information and updates on chemicals

When the respondents buy materials or components that are to be included in the final product, most (84.2 %) receive information about what chemicals these components contain. About one third of the respondents ask specifically for this information, but for the majority (65.9%) this information is provided automatically from the supplier. There are different ways in which this information is used:

- ✓ 89.4 % use the information for the company's internal environmental work
- ✓ 32.9 % use the information to communicate with their customers

How the respondents stayed updated on current legislation on chemicals relevant for their production varied; one third (33.7%) had one person within the company with the specific task to stay updated on legislation. Others received information from authorities (29.7%). A few of the respondents added that they either had enlisted a consultancy firm

to keep them updated on current events, while some others had access to some form of electronic service by which they received automatic updates.

The respondents were asked if they make additional demands, i.e. request chemicals that have a lower impact on health and environment, on the substances they have in their production beyond what is required by regulation. The large majority, 66.3%, do not place additional demands but the remaining respondents do. Examples of additional demands are using the black and grey lists<sup>1</sup> or by using demands set by environmental labels (such as Svanen or Öko-Tex).

### **3.3 Substitution**

One question asked whether or not the producers had ever substituted a chemical in their production. Here, 60.4% said that they had done this. When asked about the reason for this, 50.7% said it was because of the principle of substitution (that a substance should, whenever possible, be substituted for one with a lower impact on the environment); 6 % because the other substance was cheaper; and 25.4 % had changed substance to a safer one. Some respondents indicated that they had changed substances because they wanted to use 'natural materials' in their production, others because they were not satisfied with the information provided by the sub-contractor; and some because they wanted to make sure the internal work environment was safe for their employees. Over half the respondents, 53.5%, had at some point received comments from their customers about what chemicals that were used in the productions and of these respondents, 44.4% had made changes to the chemical content of their products.

### **3.4 Risk assessment**

The respondents were asked whether or not they themselves performed a risk assessment, both regarding health and environment, for the chemicals that were included in their products.

- ✓ 66.3 % performed a health risk assessment
- ✓ 63.4 % performed an environmental risk assessment

In order to do this, 67.6 % of the respondents used their own staff, whereas the rest engaged external consultants for this task.

### **3.5 Information to customers**

Regarding communication to customers, the respondents were asked to indicate what routes they used. The results are as follows:

- ✓ 17.8% use labeling (CE, Svanen, EU eco label)
- ✓ 34.7% use the Table of content on the product
- ✓ 28.7% provide contact information
- ✓ 17.8% use the company's website
- ✓ 22.8 % state that they do not inform their customers of the chemical compounds in their products
- ✓ 39.6% state that they do not use dangerous chemicals in their products

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<sup>1</sup> The Black list is a list over chemicals that cannot be used; the Grey list is a list where substances are listed that can be used in a limited extent.

The respondents were asked if they could do more to communicate with their customers about the chemical content. Results show that most, 89.1%, did not see that they needed to communicate more with their customers about possible risks with chemicals used in their products.

### 3.6 Reducing environmental impact

The respondents were asked to rate what factors were most or least important for reducing the environmental impact of their products. The scale ranged from 1 (not at all important) to 5 (very important) and in Table 2 the means are presented.

Table 2. Measures reducing impact

Measure	Mean
National legislation	4.3
EU legislation	4.3
National environmental goals	4.1
Consumer pressure	3.82
Competitive edge/Trademark	3.76
Public pressure	3.49
Media	3.39
Future legislation	4.1

#### 3.6.1 National goal “Non-toxic environment”

The Swedish parliament has established 16 national environmental goals. One of these goals is the “non-toxic environment” that is defined as follows:

The occurrence of man-made or extracted substances in the environment must not represent a threat to human health or biological diversity. Concentrations of non-naturally occurring substances will be close to zero and their impacts on human health and on ecosystems will be negligible. Concentrations of naturally occurring substances will be close to background levels. (Naturvårdsverket, 2001)

Respondents were asked if and how they work with this goal. About one quarter of the respondents (24.8%) work actively with the goal of creating a non-toxic environment. How this goal is used within this group is presented below:

- ✓ 48% use it for internal environmental management (standardized)
- ✓ 44% use it to inspire their own environmental work
- ✓ 20% use it when applying for permits for the production process
- ✓ 16% use it for environmental impact assessment (EIA)
- ✓ 36% use it in the design process
- ✓ 44% use it in the production process
- ✓ 48% use it to make demands on their subcontractors

Those that do not work with the environmental goal were asked a number of questions in order to investigate why and the reasons why can be seen on below:

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- ✓ 15.1% stated that the goal is known but not integrated
- ✓ 8.2% stated that it was not relevant since they were an international company
- ✓ 49.3% indicated that this was not relevant for them since their production is not covered by the goal
- ✓ 6.8% stated that the goal is only guidance, not legally binding
- ✓ 6.8% believed that the goal is too vague and difficult to work with
- ✓ 5.5% believed that it is the goal is unrealistic and not reachable
- ✓ 8.2% stated that the goal is subordinate Reach

From the open-ended questions it can be inferred that some respondents were not aware that the goal existed and had not received any information about it.

The respondents were asked three additional questions about the goal. The first concerned how important the goal was for their production process:

- ✓ Important driver – 9.9%
- ✓ Important but difficult to integrate – 20.8%
- ✓ Of some importance but other drivers are more important – 18.8%
- ✓ Not important – 5.9%
- ✓ Do not work with goal – 37.6%

The second question asked if and how the respondents received education on how to implement the goal:

- ✓ Bring in external expertise – 7.9%
- ✓ Our own staff provides education – 15.8%
- ✓ Would like to but have no good routines – 2%
- ✓ Not at all – 33.7%
- ✓ Unsure – 5%
- ✓ Do not work with the goal at all – 35.6%

Third, respondents were asked if they participated in seminars or other educational efforts undertaken by Swedish authorities in order to learn more about how to work with the goal of “a non-toxic environment”.

- ✓ Yes, actively search for these seminars – 9.9%
- ✓ Yes, when we come across them – 25.7%
- ✓ No, it doesn't add anything – 13.9%
- ✓ No, it's not relevant for our work – 45.5%
- ✓ Unsure – 5%

### **3.7 Risk perception – all products**

The respondents were asked to rank seven products in order of how large the risk for humans and the environment were. The final ranking looked like this (in decreasing order):

1. Tires
2. Textiles and Electronics (tied in second place)
4. Plastic products
5. PVC flooring
6. Shoes
7. Glass products

The respondents were also asked to rate the products in order to receive a more relative risk measure. The mean risk rating for these products (where 1 is no risk, and 7 high risk) for both human health and the environment can be seen in Table 3.

Table 3. Risk ratings for products

Product	Health risk	Environmental risk
Tires	4.23	4.75
Textiles	4.1	4
Electronics	3.9	4.29
Plastic products	2.89	3.08
PVC flooring	3.18	3.38
Shoes	2.53	2.72
Glass products	1.78	2.01

### **3.8 Comparisons between product groups**

In appendix 1, tables illustrating group-wise comparisons are presented but some differences are worth mentioning here. As can be seen in the ranking of risky products above, tires came out as the product perceived to contain the most dangerous chemicals. This is also consistent with how the producers (n=32) of tires perceived their own product. However, the results indicate that within this group substances are not changed to a great extent; the percentage of in-house expertise for risk assessment is low; and information is not provided to consumers and a large number of respondents indicate that their products do not contain dangerous chemicals. The implications of this are difficult to assess since producers might not see a direct link between their production, i.e. the substances that they use, and the greater health and environmental impact. There might be a diffusion of risk source, there for example fine particles released from the pavement are seen as a risk related to the use of tires, but that does not spring from the tire itself. Further research here on perceived responsibilities and compound risk sources is needed.

## **4 Analysis and conclusions**

The results presented here are positive since they reflect that producers take matters of health and environmental risk seriously. However, the results also suggests that there are areas where producers can learn and do more in order to decrease potential risks with their products. Overall, producers seem to have access to information about what chemicals are present in their products, both by receiving information from suppliers and by having employees with the specific task of keeping updated with changes in legislation

concerning potential risks with chemicals used in their products. Most respondents also perform their own health and environmental risk assessment, emphasising that risk assessment is an important part of everyday business. Approximately one-third of the respondents do not perform a risk assessment, and reasons for this and possible consequences should be further investigated.

Since producers from five different groups were approached in this study, it is interesting to see how they themselves rate the risks with the products identified by the Chemitecs research group as being potentially hazardous. The results show that tires, electronics and textiles are ranked as the most risky products among the producers. An interesting result in this context is that all product groups, except for textiles, are seen to be more damaging for the environment than for human health. This could affect how companies work with risk reduction and needs to be further investigated since it could affect the overall work with risks.

However, producers are quite content with the standards set by regulation and most do not experience that they have to make additional demands in order to reduce potential risks. However, roughly one-third of the producers comply with voluntary standards as set by certain labels, such as Svanen. This can be interpreted as a positive movement, where producers are concerned with the potential impact of their products (or perhaps sales figures) and place additional demands on their own product. However, the information gathered on the characteristics of chemicals included in their product is not used to any large extent in the communication with consumers. Instead perhaps, producers rely on the labels to inform customers about the quality of their product.

The results indicate that the principle of substitution is one principle that works and is widely used by the producers. In contrast, the Swedish goal of a Non-toxic environment is not utilized to any great extent by the producers. This goal is either not deemed as relevant for the producers or is seen as unimportant as a driver for changes in production. At the same time, the goal is not seen as unreachable or vague, making it a potentially useful tool for producers and companies to work with. The results suggest that more information and opportunities to receive information and further education on this goal is needed. As seen by the producers represented here, the most effective measure to address potential risks with chemicals in (theirs and others) products is legislation: both national and at the European level. Also, future legislation is seen to be effective, which might imply that producers foresee changes in the current legislation. Media and public pressure are not seen as highly influential factors for this group to change the content of their products, something that might go against popular beliefs.

Regarding communication, the most common way for producers to inform their customers about what substances their products contain is by providing a Table of content on the product (or casing) itself. The second most common way is to provide contact information to the company itself so that they can be contacted if consumers have questions. Some producers do not provide information to consumers at all, whereas others report that they do not use any dangerous substances – something that can be interpreted as no need to communicate. The majority of producers report that these communication efforts are enough and that there is no need to communicate more to customers or other parties.

In summary it can be concluded that producers are aware and take on responsibility for potential risky chemicals in their products. However, these efforts taken and the

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openness producers have to respond to customer's demands are not communicated to any great extent. Legislation is seen as the main driving force to risk reduction even though producers do take voluntary steps towards reducing impacts on health and the environment.

## Appendix 1. Product groups

These figures have two purposes: First, to illustrate the differences between product groups even though these are not statistically significant. Second, they can serve as illustrations in dialogue with producers, stakeholders and other interested parties. Readers are encouraged to use the figures as long as standard copyrights are acknowledged.











