



Schweizerische Eidgenossenschaft  
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## **Detergents and cleaning products campaign 2020/21**

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# 1 Summary

Quantitatively speaking, detergents and cleaning products are the most common chemicals found in households. For this very reason, these products have already been the subject of several previous campaigns. Since the last one, various new products have been launched, such as laundry and dishwasher detergent tabs (liquid caps), and the classifications must be fully compliant with the Globally Harmonized System (GHS).

Because detergents and cleaning products can be found in all households, professional and commercial premises, and public institutions, Tox Info Suisse (telephone number 145) receives a correspondingly large number of reports of accidents and poisonings involving these products. Fortunately, incidents involving detergents and cleaning products are by and large harmless as most products are not particularly dangerous.

Many detergents and cleaning products contain ingredients that are problematic for the environment when they are released into wastewater during use. Even products that boast "good biodegradability" still have an impact on the environment. Substances take time to degrade and some do not completely decompose.

The campaign aims to provide an overview of the detergents and cleaning products marketed in Switzerland. It also checks whether manufacturers are complying with the chemicals legislation requirements. These include the obligation to register, classification, labelling, safety data sheet and compliance with limit values for specific ingredients.

The decision about which detergents and cleaning products to include in the study was left to the participating representatives of cantonal chemical agencies. They did so on the basis of their experience and own assessment. There were no limits regarding the number of products to be surveyed either. All analyses were carried out by the Federal Institute of Metrology METAS. The surveyed products were tested and the measures implemented by the competent chemicals agencies. Where necessary – in particular with regard to reviewing classification – the FOPH's Market Control and Advice section was consulted.

Despite several previous campaigns on detergents and cleaning products, it is clear that a relatively large number of tested products fail to adequately meet legal requirements:

- 14% of the 246 detergents and cleaning products surveyed and recorded in Cheminspect were not listed in the Product register managed by the Notification Authority for Chemicals.
- 22% of products were incorrectly classified. What further complicates matters is that incorrect classifications usually result in incorrect hazard labelling.
- Nevertheless, 9% of correctly classified products had inadequate hazard labelling.
- In 8% of products the allergenic ingredients were not declared correctly.
- 43% of products displayed shortcomings in terms of special labelling.
- More than a quarter of the reviewed safety data sheets were inadequate.
- The requirements regarding banned or regulated substances were well complied with.
- For just under 40% of products no ingredient data sheet (medical data sheet) was supplied.

The topic therefore remains relevant and further tests and campaigns will need to be carried out in future.

## 2 Background

Quantitatively speaking, detergents and cleaning products are the most common chemicals in households. For this very reason, these products have already been the subject of several previous campaigns, the most recent of which was conducted in 2012/13 as part of the EuroDeter campaign in which 14 countries participated, including Switzerland. Twelve Swiss cantons took part, surveying and testing a total of 54 products. The campaign established among other things that 80% of products failed to meet the labelling requirements and complaints had to be made about them. Since then, new products have been launched, such as detergent and dishwasher tabs (liquid caps) and the classification must be fully compliant with the Globally Harmonized System GHS.

The majority of detergents and cleaning products are marketed Europe-wide. In the EEA, they are subject to uniform regulations. Switzerland has harmonised its legal requirements with those of the EU. Nevertheless, there are a number of specific features in the Swiss regulations, such as the ban on phosphates in textile detergents. In Switzerland and in the EU, the total phosphorus content is limited to 0.5% in laundry detergents, but unlike in the EU, in Switzerland they must not contain phosphates.

As detergents and cleaning products can be found in all households, professional and commercial premises and public institutions, Tox Info Suisse (telephone number 145) receives a correspondingly large number of reports of accidents and poisonings involving these products. Fortunately, incidents involving detergents and cleaning products are by and large harmless as most products are not particularly dangerous.

Many detergents and cleaning products contain ingredients that are problematic for the environment when they are released into wastewater during use. Even products that boast "good biodegradability" still have an impact on the environment. Substances take time to degrade and some substances do not completely decompose.

## 3 Key objectives of the campaign

The campaign aims to provide an overview of the detergents and cleaning products on the market in Switzerland. It also checks whether manufacturers are complying with the chemicals legislation requirements. In particular, these are:

- Obligation to register
- Classification (calculation, DetNet)
- Labelling
- Safety data sheet (sections 1, 2 and 3)
- Bans and limit values (phosphate, EDTA, octylphenol and nonylphenol and ethoxylates, Isothiazolinone)
- Specific requirements for liquid caps

## 4 Approach, participants

The decision about which detergents and cleaning products to include was left to the participating representatives of cantonal chemical agencies (chemsuisse.ch) from the cantons of AG, AR/AI, BE, BL, BS, GE, GR/GL, LU, NE, SG, SH, SO, TG, TI, ZG, ZH, the founding cantons and Liechtenstein. They did so on the basis of their own experience and assessment. There was no limit concerning the number of products to be surveyed either. An implementation wiki was provided to agencies as an aid, listing all products in the product register in product category PC35 washing and cleaning products (including solvent-based products).

Analyses were conducted by the METAS laboratory. The assessment of the surveyed products and implementation of measures was done by the competent chemical agencies. Where necessary – in particular with regard to reviewing classification – the FOPH's Market Control and Advice section was consulted.

The results of the tests were recorded in summarised form by the chemicals agencies in Cheminspect and sent to the FOPH. Only limited details and additional information can be gleaned from these data. The analyses in this project report are based solely on these data.

A project group made up of representatives from the FOPH and FOEN, as well as the cantonal chemical agencies from the cantons AG, BL, GE, SG, SO, ZG and ZH was set up to oversee the campaign.

## 5 Resources

To carry out the campaign, the project group developed various resources, including:

- Data sheet D16 "Textilwasch- und Reinigungsmittel in Verkehr bringen" (Placing detergents and cleaning agents on the market) on the Chemsuisse website
- Explanatory notes on inspecting the safety data sheet for detergents and cleaning products within the framework of the campaign
- Comprehensive information published on the implementation wiki, an internal website aimed exclusively at the cantonal offices responsible for implementing chemicals legislation and the federal authorities
- An electronic online checklist adapted for the campaign (Cheminspect).
- A list of all products listed in the product register with the intended use "washing and cleaning products"
- ChemShare (see below)

As large volumes of data had to be shared, particularly after the analyses were conducted, a Sharepoint was set up for the campaign ('Chemshare'). If this method of exchanging data between the FOPH and cantonal chemical agencies proved effective, the idea was to use it for future campaigns. In practice, however, it became clear that setting up and using Sharepoint is relatively complex and is not really suited to pure data exchange.

## 6 Legal references

Detergents and cleaning products are regulated in various pieces of legislation. Particularly relevant to the campaign are:

Chemicals Ordinance (ChemO; SR 813.11)

- Title 2: Marketing requirements; Chapter 1: Self-regulation
- Title 3: Obligations of the manufacturer after placing on the market; Chapter 3: Obligation to report

Chemical Risk Reduction Ordinance (ORRChem; SR 814.81)

- Annex 1.8 Octylphenol, nonylphenol and their ethoxylates
- Annex 2.1 Laundry detergents
- Annex 2.2 Cleaning, deodorising and cosmetic products

Particularly worthy of attention is the definition of cleaning products in Annex 2.2 of the ORRChem, namely as preparations used in cleaning which are released into wastewater.

## 7 Source of data for evaluation

When analysing data, the basis on which the data are obtained is crucial and has a bearing on the results. Accordingly, the data are perceived and interpreted differently and depending on the statement, will be understood very differently by recipients.

Another point to bear in mind is that the products selected for product surveys tend to be ones that are suspicious. This results in more deficient and non-compliant products being found than if the products were selected at random. Extrapolating percentages to the total number of detergents and cleaning products on the market is therefore not allowed.

In the following analyses, the data source is always disclosed. As not all questions on a product were usually answered in the checklist, this may differ according to the test parameter.

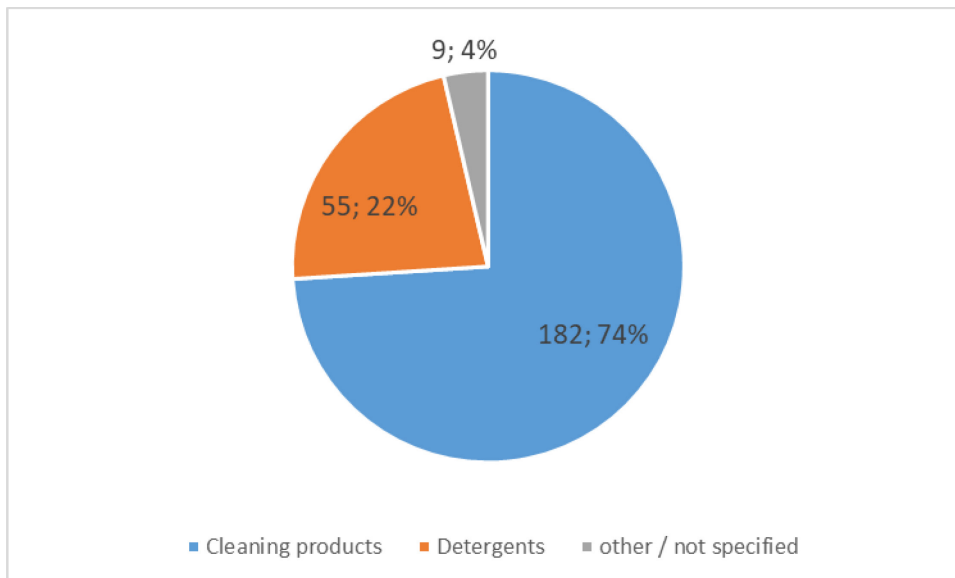
## 8 General information

### 8.1 Product categories

As part of the campaign, a total of 246 detergents and cleaning products were surveyed and recorded in Cheminspect, the majority of which are cleaning products (182 products) and around a fifth are detergents (55 products). For nine products, no category was stated.

Thirteen (5%) of the 246 products surveyed are authorised as biocidal products. The legal requirements in this regard were not specifically examined as part of this campaign and the corresponding products were treated as conventional detergents and cleaning products in the analysis. The competent cantonal chemical agencies were obviously free to carry out more in-depth tests and to take any enforcement action.

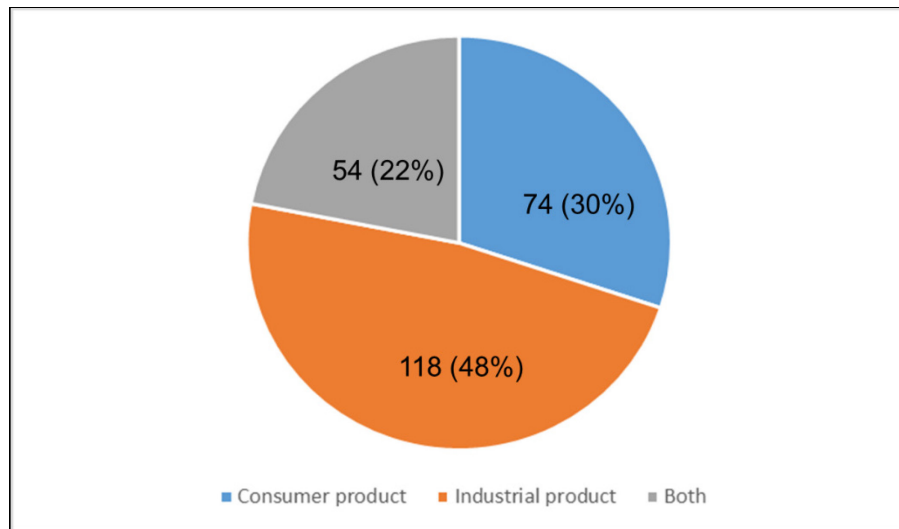
#### What sort of products were surveyed?



## 8.2 Product types

Around half (118 products) of the detergents and cleaning products surveyed and recorded in Cheminspect are exclusively intended for professional and industrial use. Only just under a third (74 products) are consumer products for the general public. Around a fifth of products (54) are intended for both the general public and for professional and industrial users.

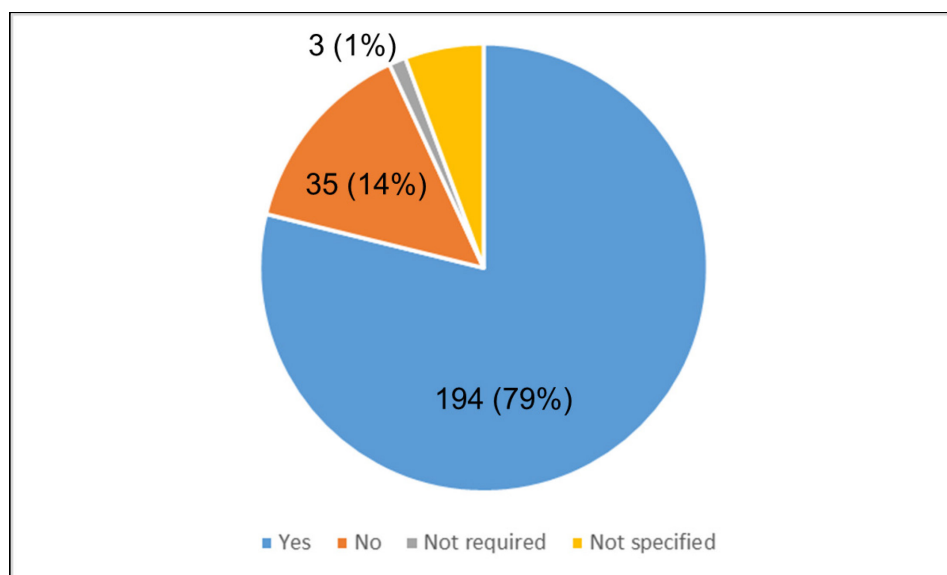
### Who are the surveyed products intended for?



## 8.3 Obligation to register

Around 80% (194) of the 246 detergents and cleaning products surveyed and recorded in Cheminspect are listed in the Product register managed by the Notification Authority for Chemicals. For a very small number of products (3), notification is not required. For 14 products, there was no corresponding information in Cheminspect, while 14% of products (35) fail to comply with the obligation to register.

### Are the surveyed products listed in the product register?



Tox Info Suisse has access to the Notification Authority for Chemicals' Product register and can issue recommendations in the event of accidents on the basis of the registered composition of the relevant products. This information is not available for products that are not registered. The fact that 14% of the surveyed products are not registered is therefore unsatisfactory

## 9 Classification

The UN's globally harmonised system for the classification and labelling of chemicals (GHS) uses three different methods to classify chemical products:

- **Based on test data or empirical data in humans**  
Test results and other information must be evaluated by experts collectively and in their entirety (weight of evidence approach). Substances and mixtures are then classified using the relevant data.
- **By analogy**  
The classification of a chemical product is derived from the classification of another chemical product with a similar composition for which sufficient information is available. This method is used in the detergent and cleaning product industry in particular (see below).
- **By calculation based on Annex I CLP Regulation**  
Classification of a product can be calculated on the basis of the concentration of hazardous ingredients.<sup>1</sup>

The question of whether or not a cleaning product should be labelled as causing eye irritation or serious eye damage can therefore be determined in different ways. The easiest way is what is known as classification by calculation, whereby checks are carried out to determine whether the concentrations of certain ingredients classified as causing irritation or serious damage to the eyes exceed the concentration limits defined by the legislator.

Because the values selected for these limits tend to be on the low side as a precaution, cases can occur where products are labelled as irritating or harmful to the skin/eyes based on the calculation method when in fact they do not cause irritation or serious damage to the skin or eyes. This is called 'over-labelling'. In order to ensure a label continues to serve its warning function, it should be objective and avoid over-labelling where possible. One possible way of ensuring proper labelling is through DetNet, the Detergent Industry Network for CLP Classification. DetNet was developed and piloted by the A.I.S.E. and its network of national associations in dialogue with decision-makers. Classification using DetNet is based on analogy with comparable formulations. Explanations and experience gained using this method can be found in the following section.

### 9.1 Classification with serious eye damage vs. eye irritation

For detergents, the hazard categories skin corrosion 1/skin irritation 2 and serious eye damage 1/eye irritation 2 are often determined using bridging principles. According to this method, a manufacturer can use the data for similar mixtures and transfer its classification to the untested mixture. This approach is based on the bridging principles as set out under Annex I No. 1.1.3 of the CLP Regulation (EC) No. 1272/2008 and also applies under Swiss chemicals legislation. The detergent industry set up a network for this purpose called 'DetNet' which allows companies to determine the appropriate classification for their detergent products free of charge using a database consisting of comparable mixtures that have been tested.

As part of the campaign, the competent FOPH assessment authority checked the plausibility of product classifications based on comparable mixtures. It found that the criteria for "sufficiently similar" mixtures were not always met. Often, whole groups of substances were considered as a single component, with the assumption that all substances in that group would have the same toxicological properties. Actually, however, at least one assessment of the substance analogy should be carried out for this purpose.

An additional complication is the interpretation of data. For the evaluation of hazard categories Eye Dam. 1 vs. Eye Irrit. 2 in particular, the data were often not sufficiently robust:

- Classification cannot be determined on the basis of a single Low Volume Eye Test (LVET; Griffith et al 1980). According to the ECHA guidance 'Application of CLP Criteria', validated data are also needed to correctly highlight the hazard potential. Many comparison mixtures in the DetNet database are often tested with an LVET, while more up-to-date in-vitro test methods are unfortunately still rare.
- The absence of poisoning cases at Tox centres does not mean that a corrosive effect can be ruled out. However, such data can be consulted to support classification (weight of evidence approach, WoE).

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<sup>1</sup> Annex I Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No. 1907/2006



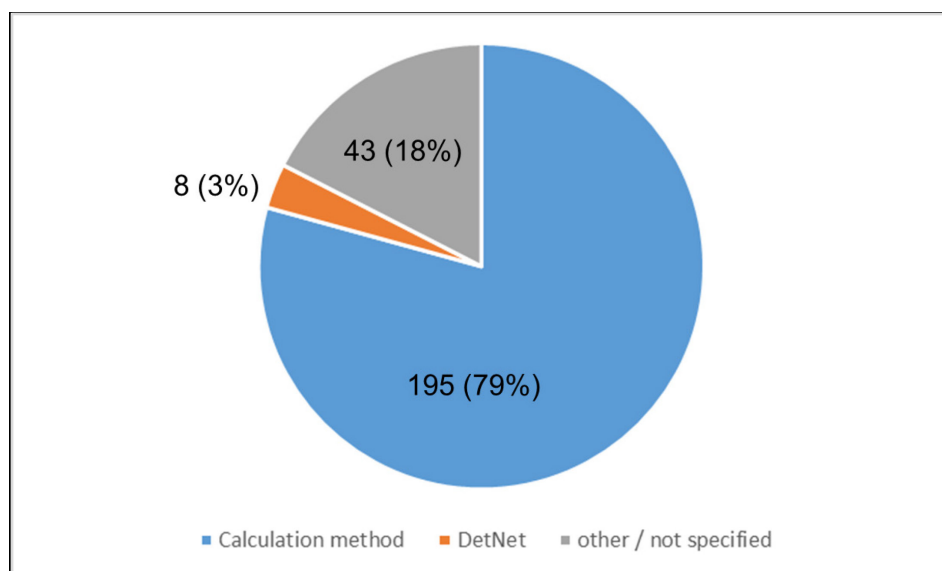
- Although classification using the weight of evidence approach is always based on the relevant file and associated data according to the CLP Regulations Annex 1 section 1.1.1, in individual cases there were direct classifications that were based solely on the expert's experience.

It was striking that mixtures such as liquid caps with a very high proportion (> 30 %) of substances that cause serious eye damage (Eye Dam. 1) were only classified in the weaker eye irritant category (Eye Irrit. 2). Although the classification criteria are in principle met according to the bridging principles, the proportion of substances that are damaging to the eyes is well in excess of the general concentration limit of 3% in the calculation method. In such cases, the mixtures must be tested, but no such tests were submitted by manufacturers.

## 9.2 Classification methods

Some 80% (195) of the 246 detergents and cleaning products surveyed and recorded in Cheminspect were classified according to the calculation method set out in Annex 1 of the CLP Regulations. In 8 (3%) of products, classification was done using DetNet. For 43 products (18%), there was no corresponding information in Cheminspect.

**Which methods were used to classify the surveyed products?**



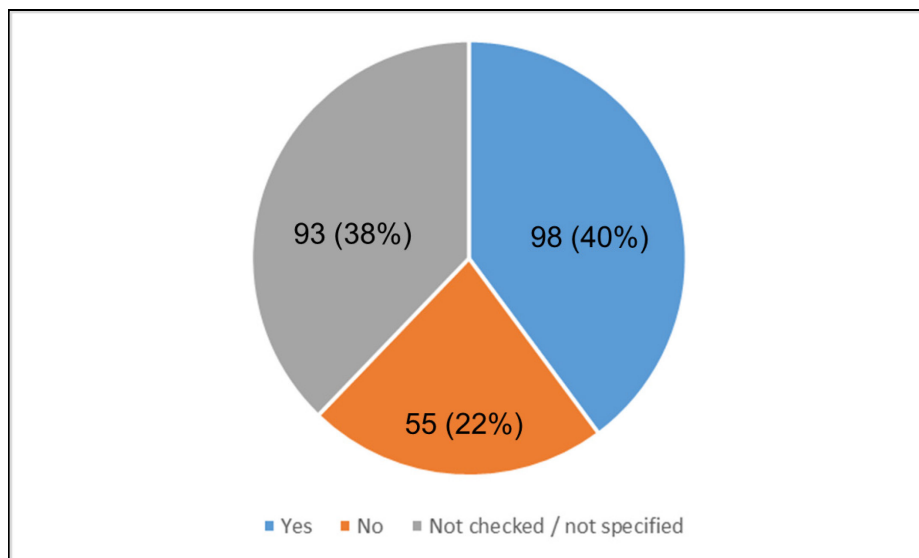
## 9.3 Review of classification

Only 40% (98) of the 246 detergents and cleaning products surveyed and registered in Cheminspect were classified correctly. In 22% of products (55), the classification was incorrect. For 93 products (38%) there was no corresponding information in Cheminspect.

The high number of products that are not classified correctly is surprising. This is presumably due to the fact that the products surveyed were particularly those with suspected deficiencies in this area. This figure cannot therefore be easily extrapolated to all detergents and cleaning products on the market.

The high percentage of inadequate classifications is particularly alarming as classification is right at the beginning of the self-regulation process. If the classification is incorrect, in most cases the labelling will be too (more on this in section 10.4 summary of hazard labelling).

### Were the surveyed products correctly classified?



As mentioned above, classification is a central element of self-regulation. It determines the hazardousness of a product and forms the basis of hazard labelling. The fact that 22% of the surveyed products were not classified correctly is therefore very unsatisfactory.

## 10 Labelling

The hazard labelling of chemical products contains the most important information for their safe use. It provides information on potential dangers, protective steps to be taken and what to do in the event of an accident. It mainly consists of the following elements

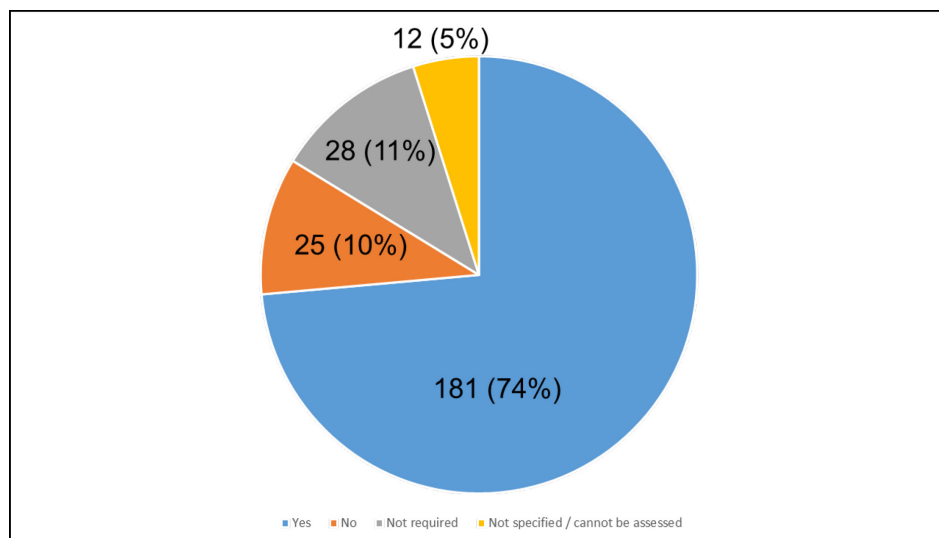
- Hazard pictogram(s)
- Signal word
- Hazard statements
- Precautionary statements

This campaign particularly focussed on the first three elements (and only partially looked at precautionary statements).

### 10.1 Hazard pictograms

Around three quarters (181) of the 246 detergents and cleaning products surveyed and recorded in Cheminspect displayed the required hazard pictograms. For 11% of products (28) no hazard pictograms were required and for 5% (12 products) there was no corresponding information in Cheminspect. On the remaining 10% of products (25), the required hazard pictograms were missing.

**Do the surveyed products feature the required hazard pictograms on the label?**

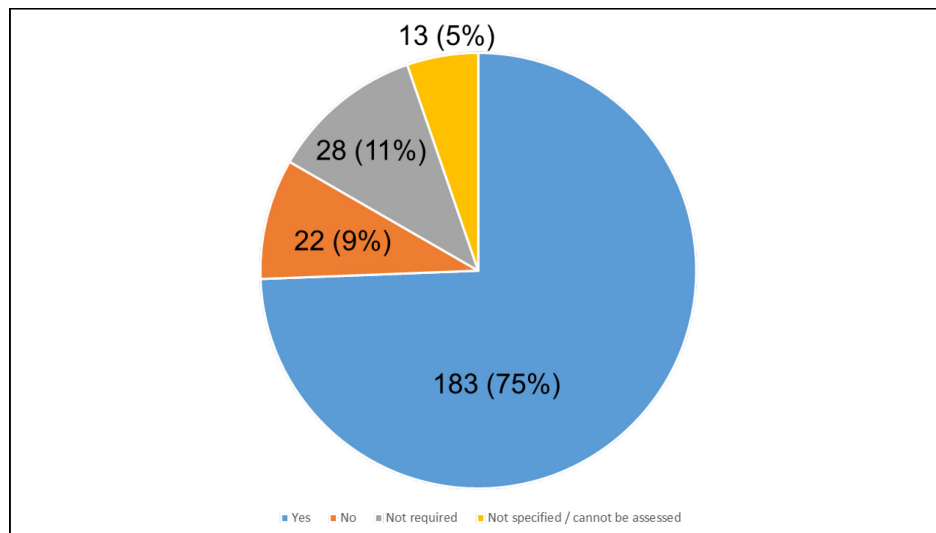


Hazard pictograms convey at-a-glance information on the hazards associated with a chemical product. If they are lacking, users assume that a product is not dangerous or does not pose the hazard from the missing pictogram. On 10% of the products surveyed, the required hazard pictograms were missing, which is unsatisfactory.

## 10.2 Signal word

Three quarters (183) of the 246 detergents and cleaning products surveyed and recorded in Cheminspect featured the required signal word. In 11% of products (28) no signal word was required and in 5% (13 products) there was no corresponding information in Cheminspect. On the remaining 22 products (9%) the required signal word was missing.

### Do the surveyed products feature the required signal words?

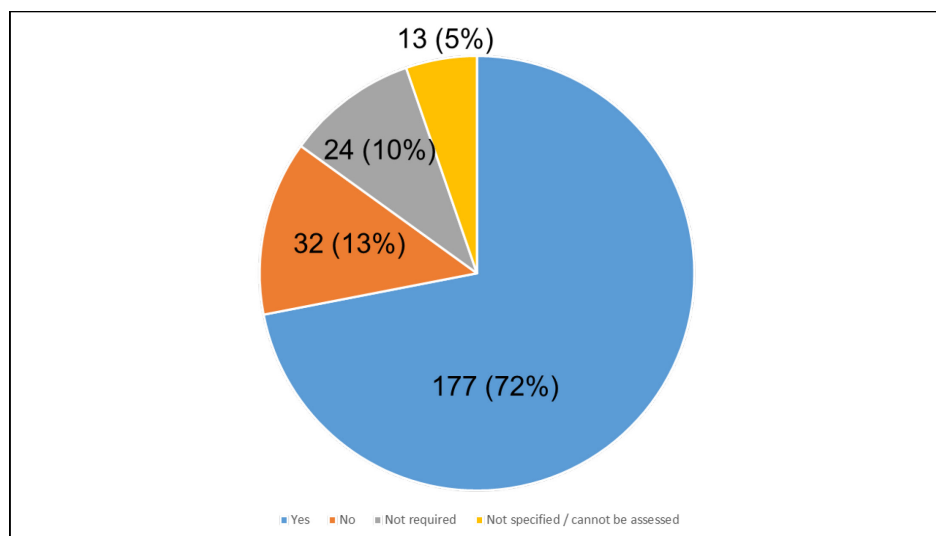


The signal words convey the extent of the hazard associated with a chemical product. 'Danger' represents severe hazards, while 'Warning' represents less serious ones. In 9% of products, the required signal word was missing, which is unsatisfactory.

## 10.3 Hazard statements

Just under three quarters (177) of the 246 detergents and cleaning products surveyed and recorded in Cheminspect featured the required hazard statements. For 10% (24 products) no hazard statements were required and for 5% (13 products) there was no corresponding information in Cheminspect. On the remaining 32 products (13%) the required hazard statements were missing.

### Does the product carry the required hazard statements?



Hazard statements are an additional element of hazard labelling for chemical products. Like hazard pictograms and signal words, they are derived from the product classification. They describe the hazards

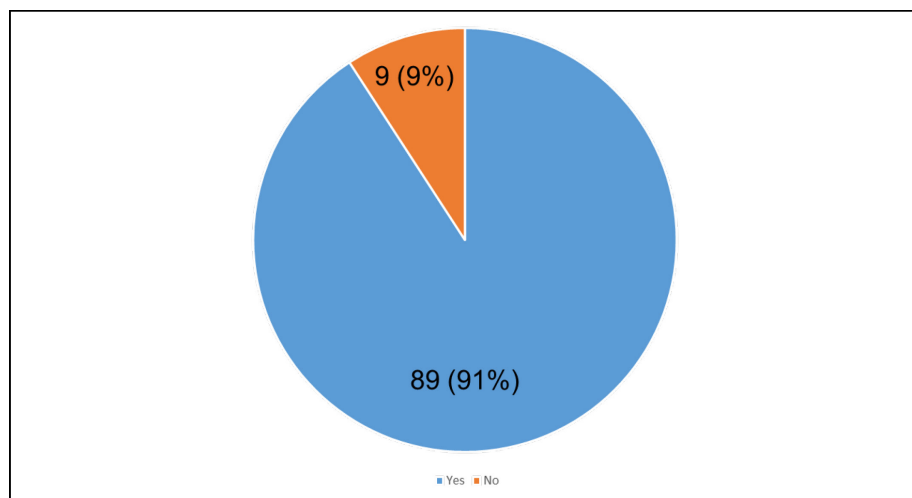
associated with a chemical product. For 13% of products the hazard statements were either missing or incomplete. This is unsatisfactory.

## 10.4 Summary of hazard labelling

As mentioned in section 9.3 on reviews of classification, inadequate classification usually results in inadequate hazard labelling because this is based on the product classification. The following hazard labelling analysis therefore only takes account of products that are correctly classified as hazardous and where the required information in Cheminspect is complete. This concerns 98 products.

The analysis reveals that over 90% of products (89) that are classified correctly are also labelled correctly. In 9% of products (9), the classification was correct but the hazard labelling was inadequate.

### Are products that are classified correctly also labelled correctly?



Over 90% of the correctly classified products are also labelled correctly. This is only just satisfactory.

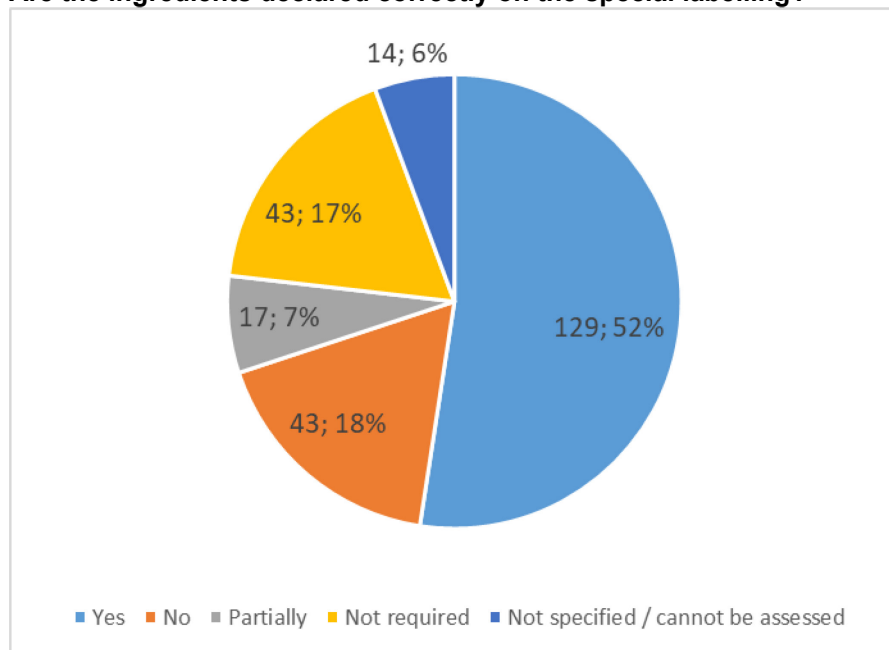
## 10.5 Special labelling

If detergents and cleaning products contain a concentration of certain substances of more than 0.2% by mass, these substances have to be declared according to their function on the packaging. The declaration must express the content as a mass percentage range. Enzymes, disinfectants, optical brighteners (laundry detergents only), <sup>2</sup> perfumes and preservation agents must be listed as such with these descriptions regardless of their concentration. For special labelling examples, see fact sheet D16 issued by Chemsuisse.

Over half of the 246 detergents and cleaning products surveyed and registered in Cheminspect meet these requirements in full, and 17% meet them only partially. In just under a quarter of products no special labelling is required or there is no corresponding information in Cheminspect. Overall, 18% of products fail to meet the special labelling requirements.

<sup>2</sup> Annexes 2.1 Laundry detergents and 2.2 Cleaning and deodorising products in the Chemical Risk Reduction Ordinance (ORRChem, SR 814.81), concerning special labelling practically identical to Regulation (EC) No. 648/2004 on detergents

## Are the ingredients declared correctly on the special labelling?



Special labelling informs users about the content of specific ingredients in detergents and cleaning products. In 25% of products, the required ingredients are not or only partially declared, which is unsatisfactory.

## 10.6 Information on allergenic ingredients (special labelling)

To ensure that freshly washed laundry smells "fresh" and the house smells "clean" after cleaning, fragrance is added to nearly all detergents and cleaning products. On detergents and cleaning products these must be labelled as 'fragrance' or 'perfume' under the special labelling requirements. If the product contains a concentration of over 0.01%, the designation 'fragrances' or 'perfume' must be supplemented to include the substance name (e.g. linalool) for 26 allergenic fragrances currently.

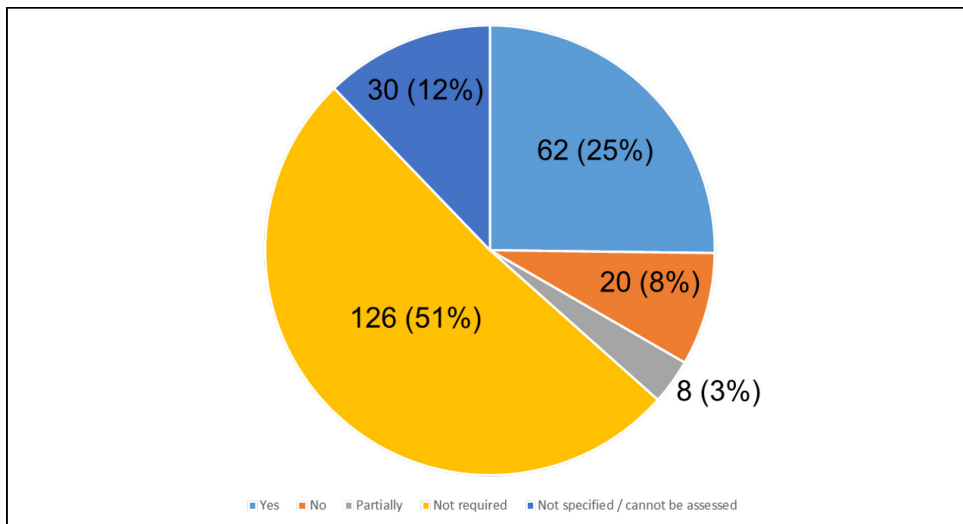
In just over half of the 246 detergents and cleaning products recorded in Cheminspect and surveyed, no special labelling of allergenic ingredients is required. For a further 12% of products, there is no corresponding information in Cheminspect. A quarter of products meet the special labelling requirement in full, and 3% in part. In 8% of products, the allergenic ingredients are not listed, although they are required to be.

score (Cheminspect category):

**Composants:** >30% agents de surface anioniques, 15%-30% agents de surface non ioniques, 5%-15% savon, <5% phosphonates. Contient des enzymes, des azurants optiques, des substances odorantes (linalool, citronellol, limonène, alpha-isomethyl ionone), des conservateurs (phénoxyéthanol).

Dosierung / Dosage		Verschmutzungsgrad / Degré de salissure	
Wasserhärte Dureté de l'eau	weich douce	1 CAP	2 CAPS
	hart dure	2 CAPS	2 CAPS

### Are the allergenic ingredients declared?



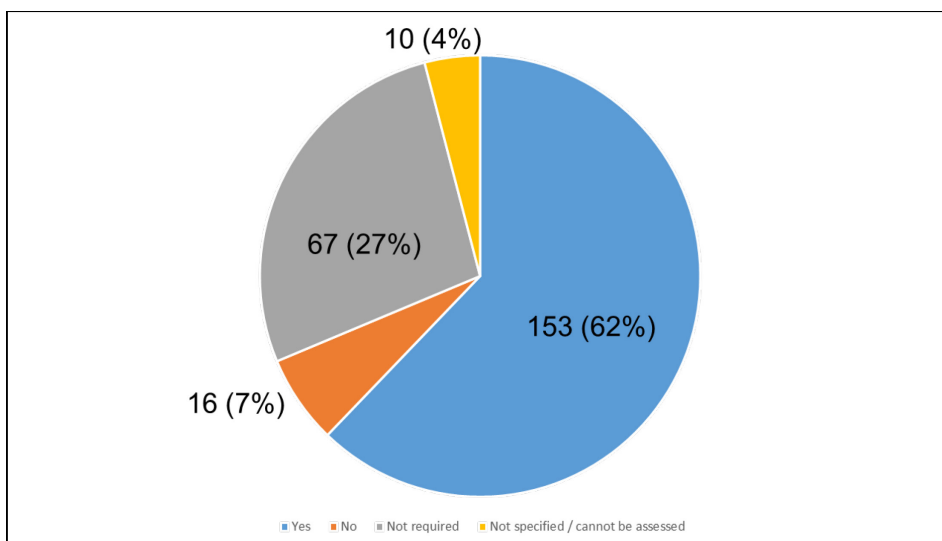
From a health perspective, it is alarming that only 36% of the detergents and cleaning products surveyed list the allergenic ingredients in the relevant concentrations. In 11% of products the allergenic ingredients are not or only partially declared. This is inadequate.

### 10.7 Dosage instructions (special labelling)

To ensure that laundry and dishwasher detergents are dosed correctly, products for the general public must feature dosage instructions.

In just over a quarter of the detergents and cleaning products surveyed and recorded in Cheminspect, this information was not required. Over 62% of products featured dosage instructions. In a further 4% of products there was no corresponding information in Cheminspect. Meanwhile, 7% of products did not feature dosage instructions although they were required to do so.

### Do the products feature dosage instructions?



Dosage instructions on detergents and cleaning products are an important tool to prevent excessive environmental pollution. Seven per cent of products did not feature this information although they were required to. Compliance with this point is therefore only just satisfactory.

# 11 Safety data sheet

Safety data sheets (SDS) convey safety information and are aimed at professional and industrial users. They contain information on the hazards posed by a substance or preparation and details on safe use (including safe storage, handling and disposal). Professional and industrial users can therefore take the necessary steps to protect health and safety in the workplace and to protect the environment.

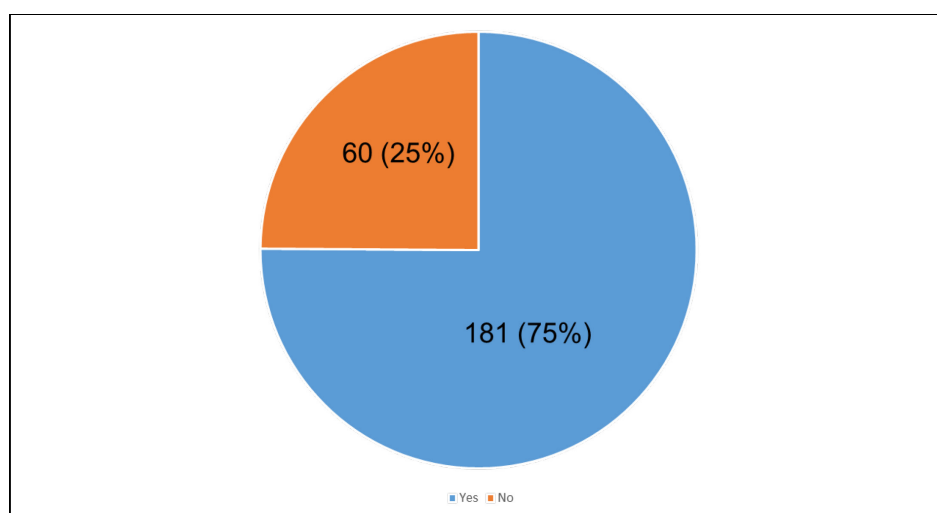
## 11.1 Section 1

Section 1 of a safety data sheet must contain the following information in particular:

- Trade name (identical to the label)
- Intended use
- Manufacturer details

Safety data sheets for a total of 241 of the detergents and cleaning products surveyed and recorded in Cheminspect were reviewed. For three quarters of products (181), the information in section 1 of the safety data sheet was correct, but in a quarter (60 products) it was inadequate.

### Is the information in section 1 of the safety data sheet correct?



The fact that for a quarter of the products tested, the information on the safety data sheet regarding trade name, intended use and manufacturer details was incomplete is unsatisfactory.

## 11.2 Sections 2 and 3

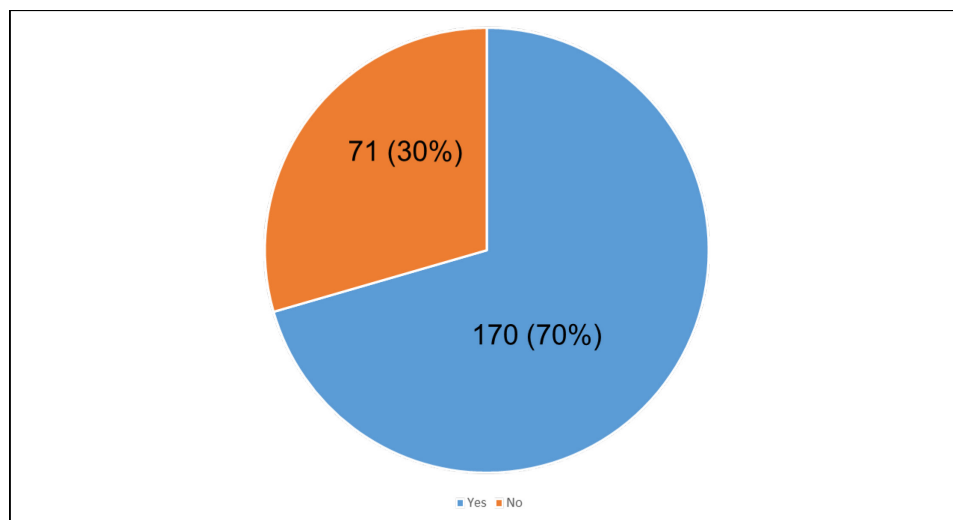
Sections 2 and 3 of a safety data sheet must contain the following information in particular:

- Product classification
- Method used for endpoint classification
- Declaration and classification of ingredients

Safety data sheets for a total of 241 of the detergents and cleaning products surveyed and recorded in Cheminspect were reviewed. For 70% of products (170) the information in sections 2 and 3 of the safety data sheet was correct, but in 30% (71 products) it was incorrect or incomplete.



## Is the information in sections 2 and 3 of the safety data sheet correct?



The fact that for 30% of the products tested, the information on the safety data sheet regarding classification, method used for classification and declaration and classification of ingredients is incorrect or incomplete is unsatisfactory.

## 12 Analyses

### 12.1 Phosphate

Phosphate acts as a water softener and used to be added to many laundry detergents. However, phosphate also acts as a fertiliser and in wastewater causes algae to bloom. When large stocks of these algae die and sink simultaneously, the decomposition process leads to a widespread lack of oxygen in the affected waters (eutrophication). This threatens fish populations and other aquatic life. Switzerland was the first country in Europe to ban phosphate in laundry detergent in 1986.

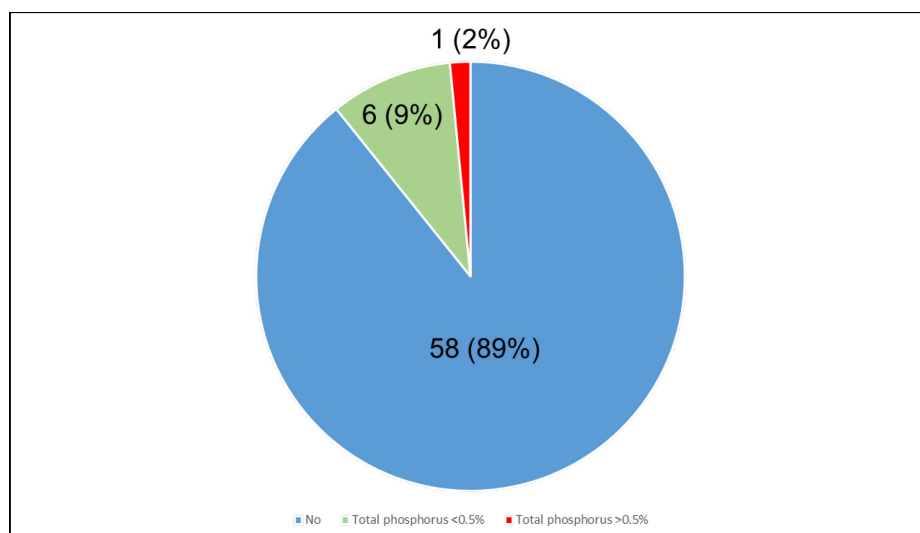
Phosphorus can exist in various forms in detergents, with phosphate, polyphosphate and phosphonate the most common. The collective term for all phosphorous compounds is total phosphorus.

Today, a content of more than 0.5% total phosphorus in laundry detergents is banned both in the EU and in Switzerland. As opposed to the EU, however, in Switzerland phosphates are banned in detergents. In dishwasher detergent for household machines, a limit of 0.3% total phosphorus per standard dose applies in the EU and Switzerland.<sup>3</sup>

Total phosphorus was analysed in the samples using the ICP-OES analysis. It is therefore not possible to draw any conclusions regarding whether the samples contained phosphate. Accordingly, it was only possible to analyse compliance with the total phosphorus limit of 0.5%. Of the 113 products analysed in total, there was an entry in Cheminspect regarding total phosphorus analysis for 65 products. Total phosphorus was detected in 10 products, however 3 of which were cleaning products, in which phosphate is permitted. Total phosphorus was therefore only detected in 7 of the 65 analysed products (11%) and only 1 sample exceeded the limit of 0.5%.

<sup>3</sup> Annex 2.1 (laundry detergents) no. 2, Annex2.2 (cleaning products) no. 2 ORRChem

## Does the product contain phosphate?



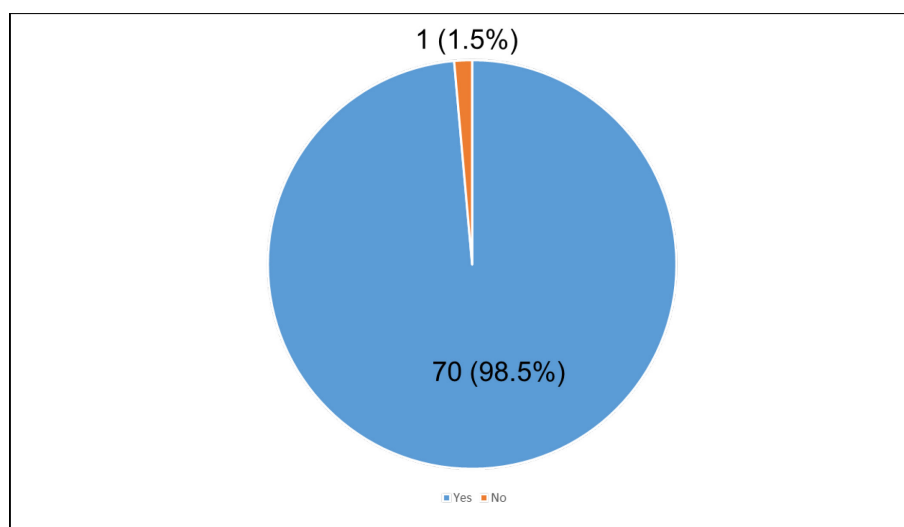
The seven detergents in which total phosphorus was detected were all imported from the EU and/or manufactured there. As described above, phosphate is permitted in detergents as part of total phosphorus in the EU, unlike in Switzerland.

## 12.2 Ethylenediaminetetraacetic acid (EDTA)

Very hard water impairs the cleaning process because water hardness stops many tensides working effectively. Complexing agents such as citrate, phosphate, zeolites and EDTA are therefore used to soften the water and support the cleaning effect. Phosphates used to be predominantly used for this purpose but due to the problems they cause, they are now rarely used. A supposedly harmless substitute is EDTA. Unfortunately, it is poorly biodegradable and ends up in drinking water via the water cycle. In Switzerland, laundry detergents may therefore contain no more than 0.5% by mass and cleaning products no more than 1% by mass of EDTA or compounds derived therefrom.<sup>4</sup>

Of the 113 products analysed in total, for 71 there was information on the analysis of EDTA in Cheminspect. Only one product exceeded the relevant limit. The vast majority of products (70) met the requirements regarding maximum EDTA content.

### Is the EDTA limit complied with?



<sup>4</sup> Annex 2.1 (laundry detergents) no. 2, Annex 2.2 (cleaning products) no. 2 ORRChem

Only one of the products tested for EDTA exceeded the prescribed limit. Compliance with this test criterion is therefore very good.

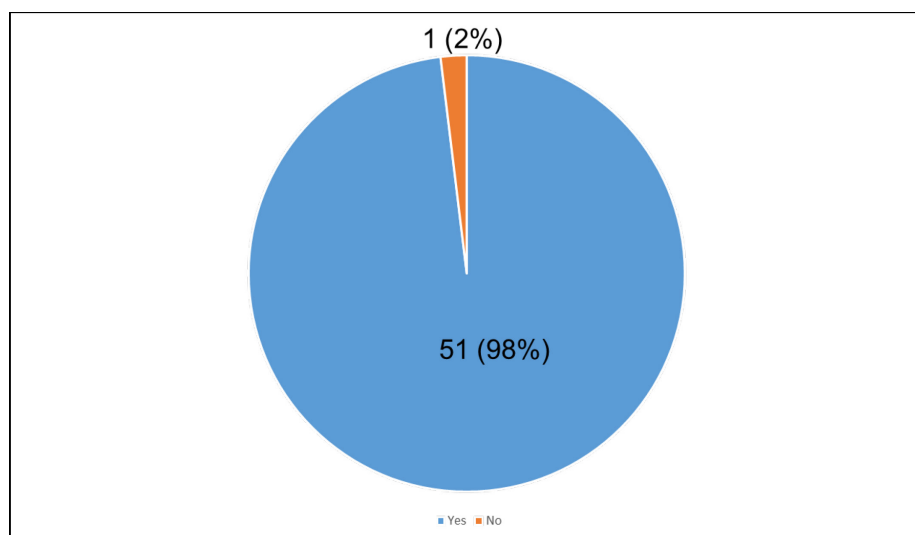
### 12.3 Nonylphenol and octylphenol and their ethoxylates

Tensides are the most important components of all detergents as they cause dirt to dissolve. Nonylphenol and octylphenol and their ethoxylates belong to this product group. However, they are known as endocrine disruptors because they work in a similar way to oestrogen and can interfere with the development of the sex organs of fish and other aquatic life. Nonylphenol was therefore added to the REACH candidate list of substances of very high concern in 2012, and was followed in 2013 by nonylphenol ethoxylates. Their use in detergents and cleaning products is banned in the EU.

In Switzerland, these bans were extended to the structurally closely related octylphenols and their ethoxylates. It is therefore prohibited to place detergents and cleaning products on the market in Switzerland if the content of octylphenol, nonylphenol and their ethoxylates is 0.1% or more by mass.<sup>5</sup>

The analyses showed that this ban is very well complied with. Of the 113 products that were analysed in total, 52 products contained information on the analysis of nonylphenol and octylphenol and their ethoxylates in Cheminspect. The 0.1% limit was only exceeded by a single product. All the others (51 products) met the requirements regarding the limits on nonylphenol and octylphenol and their ethoxylates.

#### Are the limits for nonylphenol and octylphenol and their ethoxylates complied with?



Only one tested product exceeded the limit regarding nonylphenol and octylphenol and their ethoxylates. Compliance with this test criterion is therefore very good.

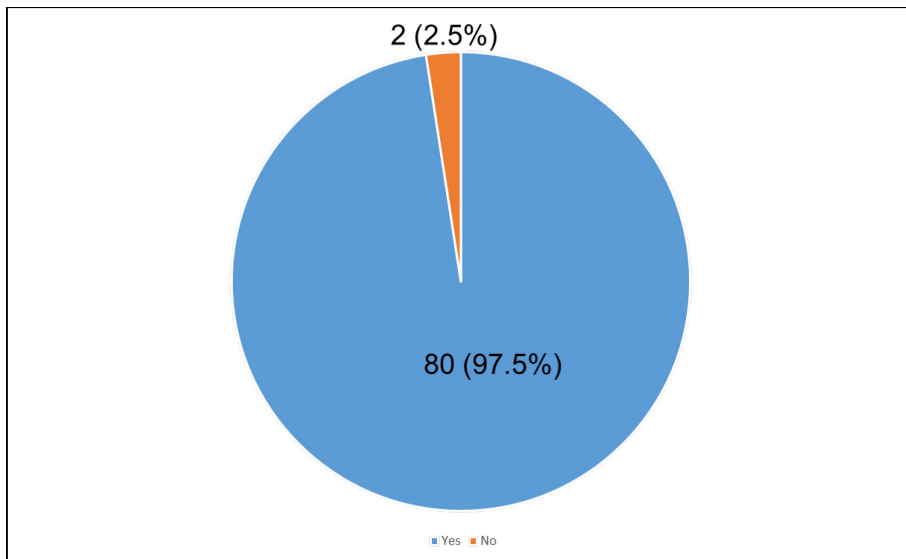
### 12.4 Allergenic ingredients

Fragrances in detergents and cleaning products are designed to lend the product a pleasant scent while masking the unpleasant smells of ingredients or suds. However, some of these different substances have an allergenic effect. If the content exceeds a certain limit value, the detergents and cleaning products must therefore be classified as sensitising to skin.

A total of 113 products were analysed. There was a corresponding entry regarding the analysis of allergenic ingredients in Cheminspect for 82 products. For the vast majority of products (80), no classification as sensitising to skin is required on account of the identified content of allergenic ingredients. Only two products have to be classified due to their allergenic ingredients.

<sup>5</sup> Annex 1.8 (Octylphenol, nonylphenol and their ethoxylates) no. 2 ORRChem

### Are the allergenic ingredients over the classification-relevant limit?



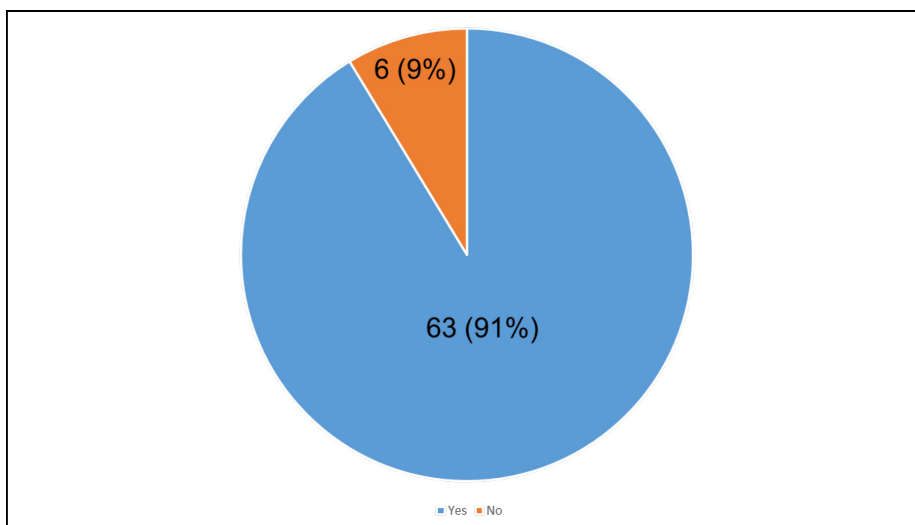
The two products whose allergenic ingredient content was above the classification-relevant limit value were both classified and labelled as hazardous. In one product the allergenic substances were only declared as 'fragrances'. In the other product the information was correct. Concerning the information on allergenic ingredients (including those that were not analysed), the relevant explanations can be found in section 10.6 information on allergenic ingredients (special labelling).

## 12.5 Isothiazolinones

Isothiazolinones are chemical substances that are usually added to detergents and cleaning products in small quantities as preservatives. They are known to have sensitising effects and can cause allergic contact dermatitis. If the content exceeds a certain limit in a detergent or cleaning product, the product must be classified accordingly.

A total of 113 products were analysed. In Cheminspect, 69 products have an entry regarding isothiazolinone analysis. For the majority of these products (63) no classification as sensitising to skin is required on account of the identified content. Only just under 10% of products (6) need to be classified based on their isothiazolinone content.

### Is the level of isothiazolinone over the classification-relevant limit?



The six products whose isothiazolinone content was above the classification-relevant limit were all classified and labelled as hazardous. In two products, however, the isothiazolinone was not listed as a hazardous

ingredient. Overall, the situation with regard to isothiazolinones and the classification/labelling of products is satisfactory.

## 13 Liquid caps

Liquid caps are pre-dosed, highly-concentrated liquid detergents in a thin soluble film that dissolves during the wash cycle. The capsules are often brightly coloured, have a pleasant scent and feel soft to the touch. They therefore particularly appeal to toddlers and young children who may confuse them for sweets. Due to the high concentrations of tensides compared with conventional detergents, cases of poisoning involving liquid caps are more serious. If children bite the capsules, the detergent frequently squirts into their eyes, causing severe irritation.

In response to the growing number of accidents involving liquid caps, the EU decided in January 2016 that the film covering must contain aversive agents so that the capsule is immediately spat out on contact with the mouth. In addition, capsules should only dissolve after 30 seconds in water and must be able to resist mechanical strength of at least 300 N.

As part of the detergent and cleaning product campaign, only four different liquid caps were recorded in Cheminspect. As far as the tests and assessments were concerned, they all met the specific requirements regarding resealability of packaging, addition of aversive agents in the film covering, resistance to pressure and dissolving time.



Users assume that highly-concentrated textile detergents and cleaning agents are less dangerous if they are labelled as causing eye irritation rather than serious eye damage. For liquid caps in particular, a systematic, in-depth review of classification is needed.

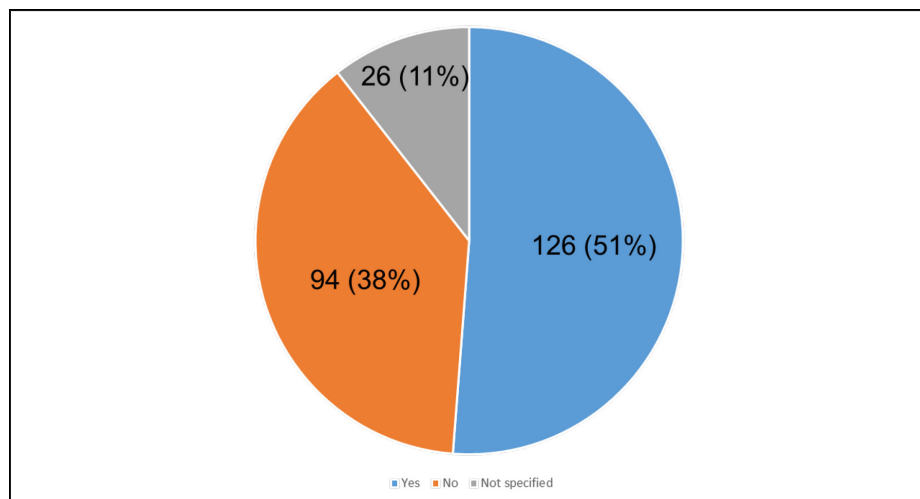
Because the vast majority of highly-concentrated products are imported into Switzerland by manufacturers and merchants in the EEA/EU (all liquid caps), a review of classification by the competent offices in all member states would be expedient.

## 14 Ingredient data sheet

Manufacturers of detergents and cleaning products are required to draw up an ingredient data sheet listing all the ingredients and their proportions. On request, this data sheet must be provided to healthcare workers free of charge.

For just over half (126) of the 246 detergents and cleaning products surveyed and recorded in Cheminspect, an ingredient data sheet was supplied for the product survey. In around 40% of products (94), this was not the case. For just over 10% of products, there was no corresponding information in Cheminspect.

### Is an ingredient data sheet (medical data sheet) available?



The fact that no ingredient data sheet was supplied for just under 40% of the surveyed detergents and cleaning products is very unsatisfactory. To rectify this situation, this requirement needs to be communicated more effectively.

## 15 Conclusion

Despite several previous campaigns on detergents and cleaning products, it is clear that a relatively large number of tested products fail to adequately meet legal requirements:

- 14% of the 246 detergents and cleaning products surveyed and recorded in Cheminspect were not listed in the Product register managed by the Notification Authority for Chemicals.
- 22% of products were incorrectly classified. What further complicates matters is that incorrect classifications usually result in incorrect hazard labelling.
- Nevertheless, 9% of correctly classified products had inadequate hazard labelling.
- In 8% of products the allergenic ingredients were not declared correctly.
- 43% of products displayed shortcomings in terms of special labelling.
- More than a quarter of the reviewed safety data sheets were inadequate.
- With the exception of phosphate, the requirements regarding banned or regulated substances were well complied with.
- For just under 40% of products no ingredient data sheet (medical data sheet) was supplied.

The relevant associations dealing with laundry detergents and cleaning products in Switzerland and in the EEA/EU have been notified of the results of this campaign.

## Summary of results

Test criterion	Assessment
Obligation to register	unsatisfactory
Classification	unsatisfactory
Hazard pictograms	unsatisfactory
Signal word	unsatisfactory
Hazard statements	unsatisfactory
Special labelling	unsatisfactory
Information on allergenic ingredients	unsatisfactory
Instructions	just satisfactory
Safety data sheets (sections 1-3)	unsatisfactory
Total phosphorus	satisfactory
EDTA	satisfactory
Nonylphenol and octylphenol and ethoxylates	satisfactory
Allergenic ingredients	satisfactory
Isothiazolinone	just satisfactory

December 2022 PK