

Bund/Länder-Arbeitsgemeinschaft  
Chemikaliensicherheit

# Monitoring Online Trading 2004 - 2012

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## Monitoring Online Trading 2004-2012

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According to the German E-Commerce and Distance Selling Trade Association, the turnover from distance selling rose from EUR 26.3 billion in 2006 to EUR 39.3 billion in 2012. Over 70% of the total turnover from distance selling in Germany is now processed online. Commercial suppliers and private individuals both offer a vast range of products. Many users regard the internet as a zone where laws do not apply, and where a diverse range of chemical products can also be offered and ordered. This includes chemicals, the sale of which is either illegal due to the dangers they pose for consumers and the environment, or the sale of which may only take place under certain conditions.

The decentralised network of traders as well as products that are only available 'virtually' in the first instance, pose new challenges for the supervisory authorities.

As a response to these new challenges to environmental and consumer protection, it was necessary to devise completely new strategies and methods with regard to the monitoring of chemical legislation in terms of online trading.

In 2004, the Ministry for the Environment of the State of North Rhine-Westphalia and the Government of Upper Palatinate both, independently of each other, identified the need to monitor the online trading of chemicals. It was clear from the outset that, due to the transnational structures of the internet, the problem could not be solved by the state-specific monitoring of chemical legislation, as was previously the case. Both authorities proposed a pilot project in the 'Specific Issues and Implementation' committee of the Federal/Federal State Working Committee Chemical Safety [*Bund/Länder- Arbeitsgemeinschaft Chemikaliensicherheit, BLAC*] and started monitoring the online trading of chemicals on a national level, throughout Germany. Due to the necessity of monitoring, which was made evident, as well as a high level of acceptance from the state authorities, the original pilot project 'Monitoring Online Trading' has been running as a national, long-term project since the end of 2006.

Towards the end of 2006, the state of Rhineland-Palatinate became part of the voluntary group of authorities involved. In mid-2012, Baden-Württemberg followed, and the Hanseatic city of Bremen followed in 2013. The supervisory authorities, together with state representatives from Lower Saxony, Saxony-Anhalt, Schleswig-Holstein and the Federal Institute for Occupational Safety and Health (BAuA), form the 'online monitoring' group of experts, which coordinates the monitoring of online trade on a national level, as well as facilitating a regular exchange of ideas. The group of experts is also supported by a permanent member of the committee on chemical legislation from the Federal/Federal State Working Committee Chemical Safety (currently Rhineland-Palatinate).

Based on the findings from the project, the Government of Upper Palatinate has carried out two special projects over the past years, the results of which can be found in Annex I, "Monitoring the supply of raw materials for the illegal production of explosives and other safety-related substances online" and Annex II, "Product and chemical safety in online trading and e-commerce".

### Monitored substances:

Whilst at the start of the project, the monitoring of auction sites and online traders throughout Germany only focused on the illegal supply of a limited number of substance groups, monitoring has since been extended to cover the following substances:

- Toxic substances (e.g. stainless steel pickling products), compounds containing boron, mercury, pesticides that release phosphine, fire extinguishers that contain halon and tetrachloromethane, asbestos products, paint strippers containing methylene chloride, substances to which categories R40, 62, 63, 68 have been assigned (e.g. assembly foams containing MDI, silver immersion baths) and fertilisers containing ammonium nitrate by the Government of Upper Palatinate
- Railway sleepers containing tar oil, oxidising substances (e.g. potassium nitrate, potassium permanganate, sodium chlorate, pool cleaner, disinfectants) and hydrogen peroxide by the district government of Münster
- Methanol and model fuels containing methanol by the State Office for the Environment, Water Management and Commerce Inspectorate in Mainz
- Brazing fillers containing cadmium by the district government Freiburg

The list of substances is constantly amended based on the findings from the project, further findings from the enforcement of chemical legislation as well as specific advice from enforcement officers and companies.

### **Monitoring procedure:**

For online shops that are selling substances for which the provisions of the German Chemicals Prohibition Ordinance [*ChemVerbotsV*] relating to the supply of substances are applicable, the processor checks the details for compliance. In doing so, it is often the case that it is necessary to follow the ordering process up to the final step 'submit order'. In shops where it is necessary to register before making a purchase online, this step is also carried out. In the event that the necessary verifications such as proof of age and intended purpose are not requested during the ordering and/or registration processes, the order is referred to the highest state authority for chemical safety responsible for the shop or a different state authority designated for this purpose.

On online auction sites, if products that are clearly illegal are being sold, their immediate deletion is initiated, preventing their sale. At the same time, the address of the supplier on the auction sites is established and the case is referred to the highest state authorities for chemical safety or a different state authority designated for this purpose in order to pursue infringements. In the event of questionable products being sold on online auction sites, the deletion of which cannot be initiated immediately, the infringement and address of the supplier are also referred to the responsible authorities.

Where products from other countries are being sold (e.g. halon fire extinguishers from the UK, model fuels from Austria), the Federal Institute for Occupational Safety and Health [*Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, BAuA*] is brought in to inform the countries involved.

### **Results of the project:**

Between 2004 and 2012, the supervisory authorities detected and handled a total of 7639 illegal products being sold in contravention of chemical legislation. As shown in Fig. 1, 1422 instances of illegal sales were prevented in the year 2012 alone.

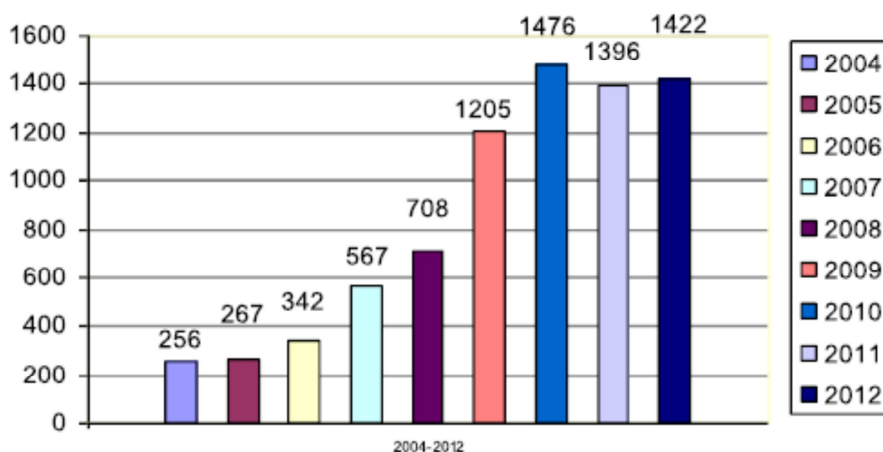


Fig. 1: Number of products on offer detected

At the start of the project, online auction sites were at the forefront of the supervisory interests. From 2007, the focus on products that were questionable in terms of chemical legislation increasingly shifted to commercial online shops. Since 2010, the statistics (see Fig. 2) show a clear increase in the number of illegal products for sale on a large online auction site. The inclusion of new products in the monitoring programme was primarily responsible for this:

- 2010 catalytic heaters containing asbestos
- 2011 silver immersion baths (thiourea), compounds containing boron and assembly foams containing MDI (amongst others)
- 2012 brazing fillers containing cadmium

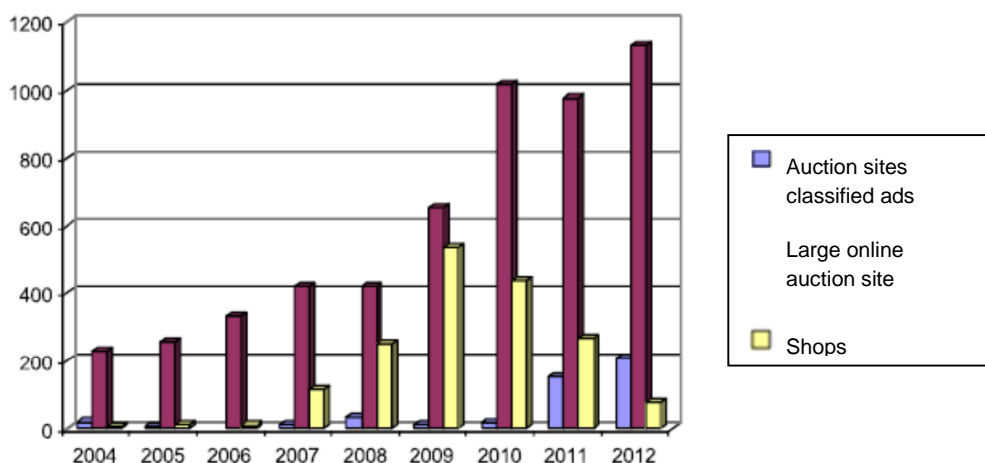


Fig. 2: Distribution of products on offer

Since 2011, illegal products have increasingly been found advertised in the classified ads section of a large online auction site. In 2012, the number of classified ads increased by 46 in comparison with 2011, to 170. The classified ads section of this large online auction site is operated by an internet platform provider in Amsterdam. When advertising a product here, it

is not necessary for the seller or buyer to register. However, it is possible to send the seller an email directly via the classified ads section. This method was used to inform the seller that it is illegal for them to sell the products in question. Feedback revealed that many sellers had not been aware of the legal situation and were grateful to be informed about this, in part disposing of their products immediately.

Over these nine years of the project, the number of substances for sale covered by REACH Annex XVII (formerly Annex I Chemicals Prohibition Ordinance [*ChemVerbotsV*]) comprised 36.8% of the total products for sale that were detected and the number of substances, for the sale of which commercial traders require expertise comprised 29.5% of the total products for sale that were detected.

Toxic and very toxic substances, for the sale of which traders require a permit and for which a prohibition on distance selling to private individuals applies, comprised an average of 23.2% of the products on offer that were detected. Substances that damage the ozone layer (halons) related to 6.6% of the products on offer and 4% of detected substances were other substances e.g. hydrogen peroxide.

## Selected problematic substances

### Asbestos and railway sleepers impregnated with tar oil:

These two substance groups have been the focus of our attention since the project was launched. Whilst the number of products detected containing asbestos (e.g. fibre cement boards and window boxes containing asbestos) continually increased between 2004 and 2007, a marked decrease was observed between 2008 and 2009. The number of products containing asbestos has increased significantly since 2010 (see Fig. 4), and this is certainly due to the inclusion of catalytic heaters containing asbestos in the investigation as of 2010 (see Fig. 3). At our request, a large online auction site optimised its internal filters with regard to catalytic heaters at the end of 2010, but this prompted a rapid reaction from users, in which the catalytic heaters containing asbestos were now listed under other names, such as tent heaters, thereby making the investigation more difficult for the supervisory authorities.



Fig. 3: Catalytic heaters containing asbestos

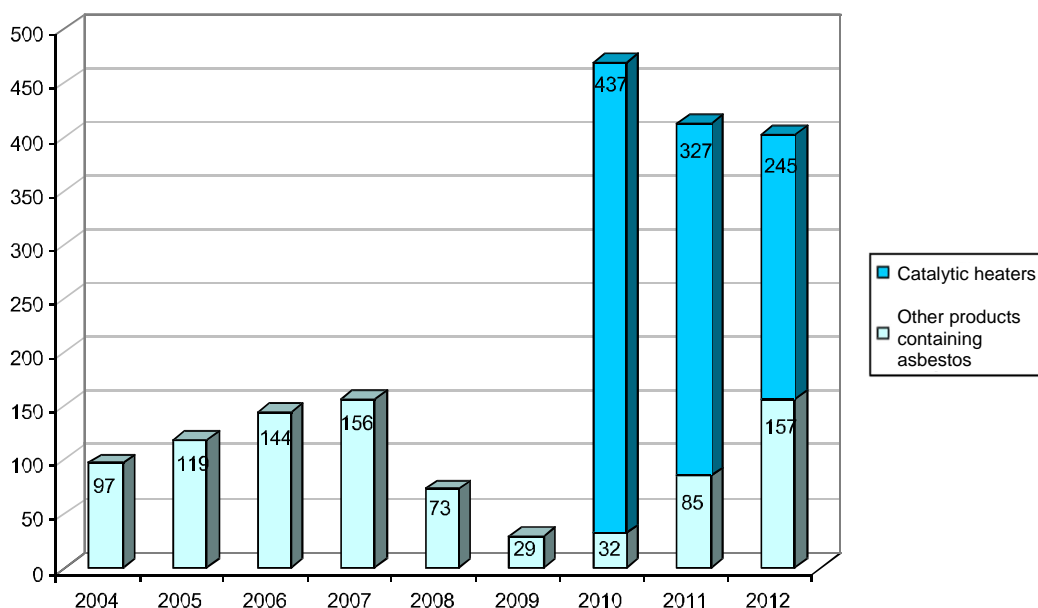


Fig. 4: Detected products being sold containing asbestos 2004-2012

Of the remaining 157 instances of products being sold containing asbestos in the year 2012, 24 were found directly on a large online auction site. The remaining 133 comprised 124 in the classified ads section of the large online auction site and 9 on two other classified ads platforms.

The findings with regard to railway sleepers containing tar oil were similar. Whilst railway sleepers were frequently listed for sale in 2004, the number of these products decreased significantly from 2005 to 2007 (see Fig. 5). In contrast, the number increased again significantly in 2008. The cause of this increase was an improved detection strategy. It is now the case that railway sleepers are no longer offered for sale just on large online auction sites, but also on smaller online trading platforms. Our monitoring of these online trading platforms resulted in a notable decrease in 2009 and 2010.

A new amendment was made to the detection strategy, resulting in another significant increase in the number of railway sleepers containing tar oil being detected in 2011 and especially 2012, namely 55 in 2011 and 190 in 2012. The majority of the suppliers of railway sleepers containing tar oil resorted to the classified ads section of a large online auction site, similarly to the suppliers of products containing asbestos. This shows how flexible the suppliers of illegal products are in their response and how important it is for the investigating authorities to amend their detection strategies to reflect the ever-changing nature of e-commerce.

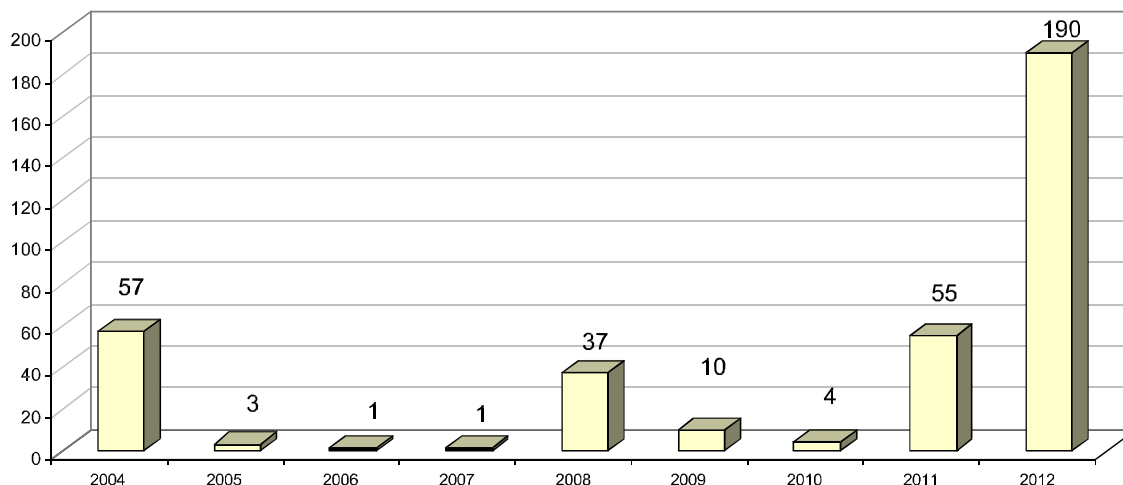


Fig. 5: Detected cases of the sale of railway sleepers impregnated with tar oil 2004-2012

Methanol and model fuels containing methanol

Alongside mercury, methanol is one of the toxic substances that have been monitored within the scope of the project run by the Federal/Federal State Working Committee Chemical Safety (BLAC) from the very beginning. Since the end of 2006, Rhineland-Palatinate has also included model fuels containing methanol in its monitoring processes. As a rule, the products being sold uncovered by these monitoring processes originate from private sellers. Whilst the obligation to seek permission does not apply to private traders, the prohibition on the distance selling of toxic substances to private individuals applies in the same way as for commercial traders. As the following statistics (see Fig. 6) display, the monitoring of the market has proved effective since 2009: the number of illegal products for sale is falling steadily.

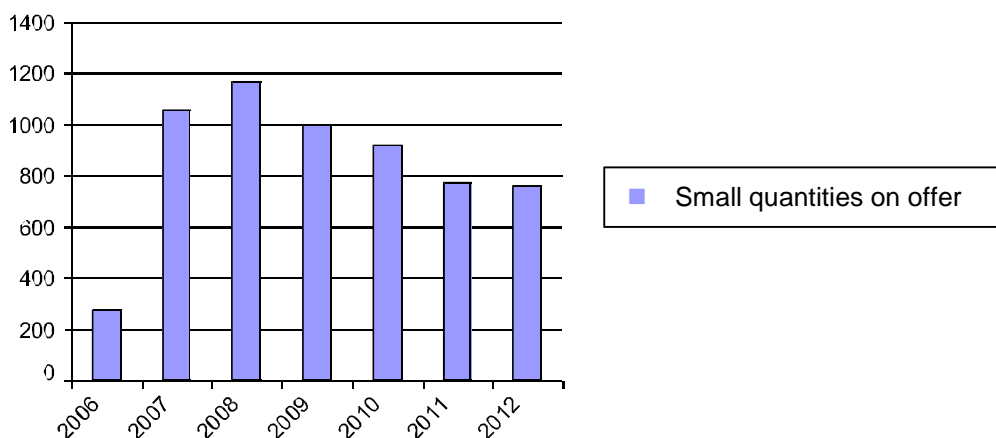


Fig. 6: Small quantities of methanol and model fuels containing methanol on offer



In contrast with cases involving small quantities of methanol, amounts over 10 litres that are being sold by commercial or private traders are referred to the responsible state authorities as 'special cases' to be further dealt with. The same process applies to products being supplied by private suppliers who re-list their products once they have already been deleted. These cases are also included in the statistics of the project run by the Federal/Federal State Working Committee Chemical Safety (BLAC), whereas the small quantities are left out. The statistics (see Fig. 7) reveal that the market is subject to large fluctuations regarding these products. In contrast to other substances, the influence of our monitoring processes cannot be identified in this instance.

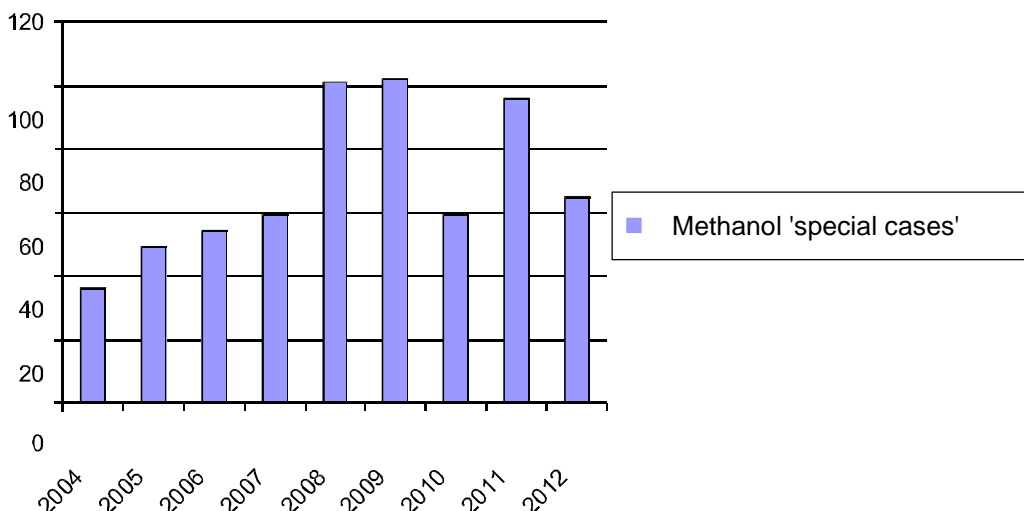


Fig. 7: Methanol products detected 2004-2012

Mercury

In the first years of the project, products containing pure mercury were found time and time again, and these had often been put online by dentists looking to save the costs associated with disposal. Due to our monitoring activities, the number of instances of mercury being sold online has decreased significantly since 2008. In 2011, we added mercury thermometers to our search, which led to an increase in the number of detected products once again (see Fig. 8).

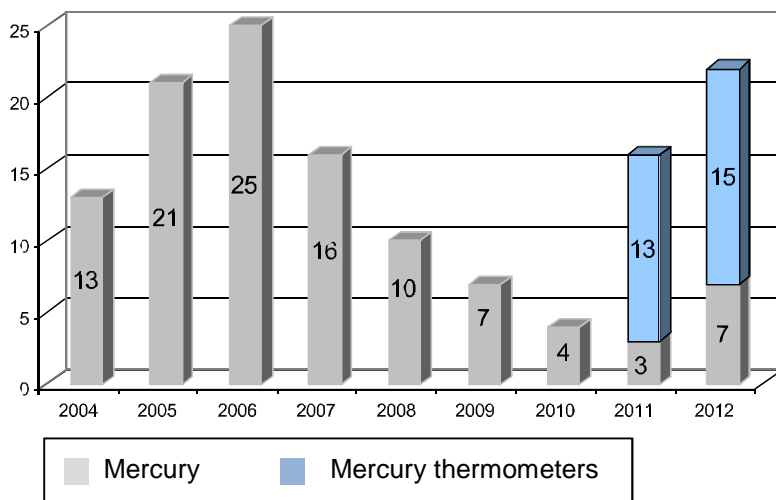


Fig. 8: Mercury 2004-2012

### Fire extinguishers containing carbon tetrachloride and halons

Similarly to methanol, a clear trend cannot be established with regard to the number of fire extinguishers on offer containing carbon tetrachloride and halons. The number of products detected increased continuously from 2004 to 2008. In 2009 and 2010, a significant drop in the number of these fire extinguishers could be seen for the first time, but this increased again in 2011 and 2012 (see Fig. 9). This shows that it is necessary to continue monitoring this product group in the future.

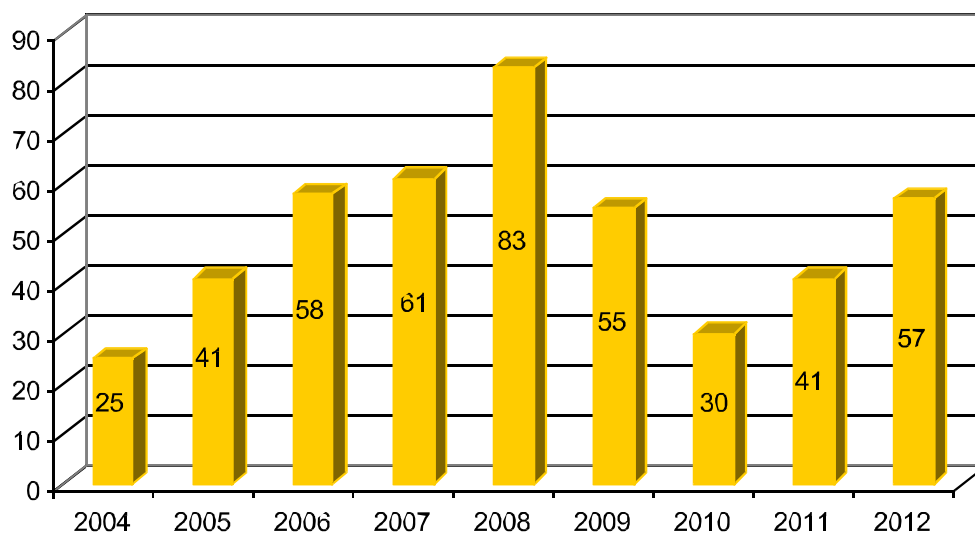


Fig. 9: Fire extinguishers containing carbon tetrachloride and halons 2004-2012

### Pesticides that form phosphine:

These hazardous pesticides have been monitored systematically since 2008. Initially, the number of products on offer detected that resulted in the formation of phosphine was especially high. 206 products were found in total. 61 of these involved extremely toxic substances. At that time, the vast majority of these products originated from online pharmacies. As a result, we contacted the Federal Chamber of Pharmacists (BAK). The Federal Chamber of Pharmacists subsequently drew up a document containing information to send to the pharmacies. In negotiations with a large online auction site, it was also possible to implement changes in the system in 2009 so that a warning notification appears automatically when these products are put online and to link this warning notification to an informative guide. As a result of this, the number of very toxic pesticides that result in the formation of phosphine as well as those not classified as toxic has decreased significantly since 2009. After no toxic pesticides that lead to the formation of phosphine were found on online pharmacies in 2011, three instances cropped up on online pharmacies in 2012.

Within the scope of our monitoring activities, we carried out three test purchases of very toxic vole killer in pharmacies and on an online shop in 2010. Despite all the provisions of the Chemicals Prohibition Ordinance [*ChemVerbotsV*] relating to the supply of substances, these products were delivered (see Fig. 10). The pharmacies delivered large packs containing 250 g and 100 g, which should only be supplied to holders of fumigation certificates. The delivery process also contravened the transportation regulations in a striking manner. These test purchases led to fines being imposed against these traders in a number of federal states.



Fig. 10: Very toxic vole killer (250 g) from a test purchase

### Raw materials for explosives:

The manufacture of explosives and pyrotechnic articles without official permission constitutes a criminal offence under the Explosives Act [*Sprengstoffgesetz, SprengG*]. The raw materials required to manufacture explosives are often purchased online.

In the summer of 2007, a major police surveillance operation led to the arrest of the members of the terrorist cell that became known as the 'Sauerland Group'. In the process, 700 kg of hydrogen peroxide ( $H_2O_2$ ) were discovered; a quantity large enough to manufacture 500 kg of explosives. The discovery of the terrorist cell led to a new sense of awareness about substances that can be used to manufacture explosives. In mid-2008, various raw materials that can be used for the manufacture of explosives were added to the Chemicals Prohibition Ordinance [*ChemVerbotsV*]. Since then, online trading of raw materials that can be used for

the manufacture of explosives has also been monitored. The statistics show the substances discovered online between 2009 and 2012 that require monitoring pursuant to the Chemicals Prohibition Ordinance [*ChemVerbotsV*]. Hydrogen peroxide constitutes the majority of the raw materials for explosives that were found. A marked fall in the number of instances of the five raw materials presented in Fig. 11 can be observed since the start of the monitoring process. Other raw materials that can be used to manufacture explosives such as sodium perchlorate, potassium perchlorate and ammonium nitrate, which are not presented in Fig. 11, were no longer found on sale in 2012. The reduction in the number of instances of these products being offered for sale is the result of both the continual monitoring of the internet as well as the authorities informing the suppliers about the current legal situation. It is also useful that word spreads quickly amongst the suppliers regarding the monitoring operations being carried out by the authorities. Fig. 11 clearly shows that tightening the trading of raw materials used for explosives as a result of updating the Chemicals Prohibition Ordinance in 2008 and the subsequent, systematic monitoring of the internet by the authorities resulted in a significant fall in the number of raw materials used for explosives that were offered for sale, with a delay of a good three years.

The two-year special project 'Monitoring raw materials used for explosives', carried out by the Government of Upper Palatinate from 2008 to 2010, revealed, however, that raw materials used for explosives are regularly traded on various forums, to which only insiders in the explosives scene have access (see Annex I).

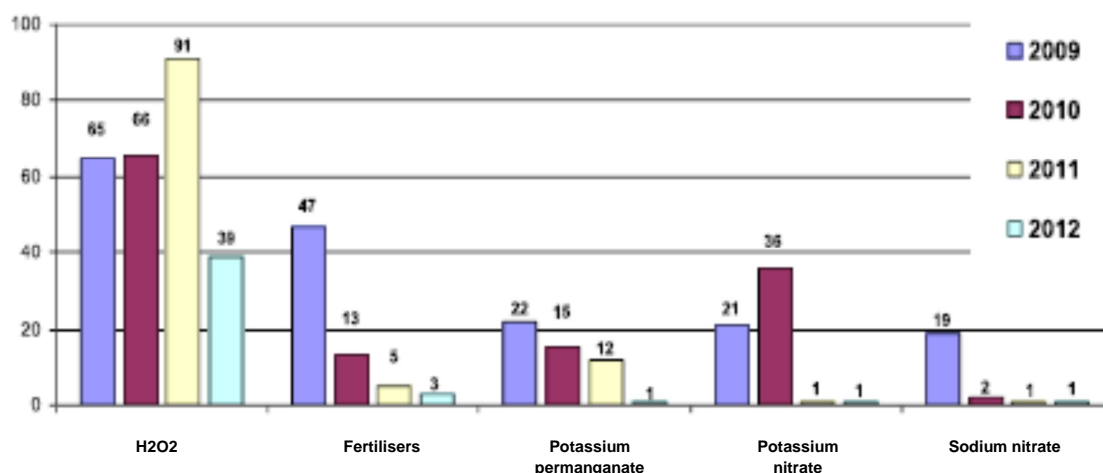


Fig. 11: Raw materials for explosives

### New substances 2011/2012:

In 2011, silver immersion baths containing thiourea (R40), compounds containing boron and assembly foams containing MDI were included in the search for the first time. On the initiative of the district government Freiburg, brazing fillers containing cadmium have also been included in the search since mid-2012 (see Fig. 12).

Silver immersion baths and compounds containing boron:

The number of silver immersion baths to which category R40 has been assigned decreased significantly in 2012, with 23 instances as opposed to 129 instances in 2011. The number of compounds containing boron also decreased by about a third in 2012.

Assembly foams containing MDI:

Although assembly foams containing over 1% MDI have been assigned category R40 since the end of 2010 and are therefore subject to the provisions of the Chemicals Prohibition Ordinance relating to the supply of substances, more than 450 offers were still found in 2012. This often related to online shop operators on a large online auction site who had a whole range of products on offer. In a particularly extreme case, a supposed private provider was discovered to be selling the same foam under 14 different names in various pack sizes and in very high quantities. Added together, well over 1000 products were discovered. As a result of our informing them, the online auction site permanently deleted all the accounts of this user, as it clearly no longer involved a private auction, but a commercial sale.

Brazing fillers containing cadmium:

Due to the re-implementation of a prohibition on brazing fillers containing cadmium in concentrations of  $\geq 0.01\%$  in Annex XVII of the REACH Regulation, the online trade of these products has also been monitored since mid-2012. Larger quantities of brazing fillers are offered for sale on online platforms by both private and commercial traders. On the basis of the product description and the solder designation listed there, it is possible to determine the cadmium content in individual cases. In this way, the district government Freiburg was able to identify approximately 50 violations in the third and fourth quarters of 2012. These products were removed from the platforms in question and the authorities responsible for the relevant areas informed the sellers about the legal situation, in order to prevent these products being put online again.

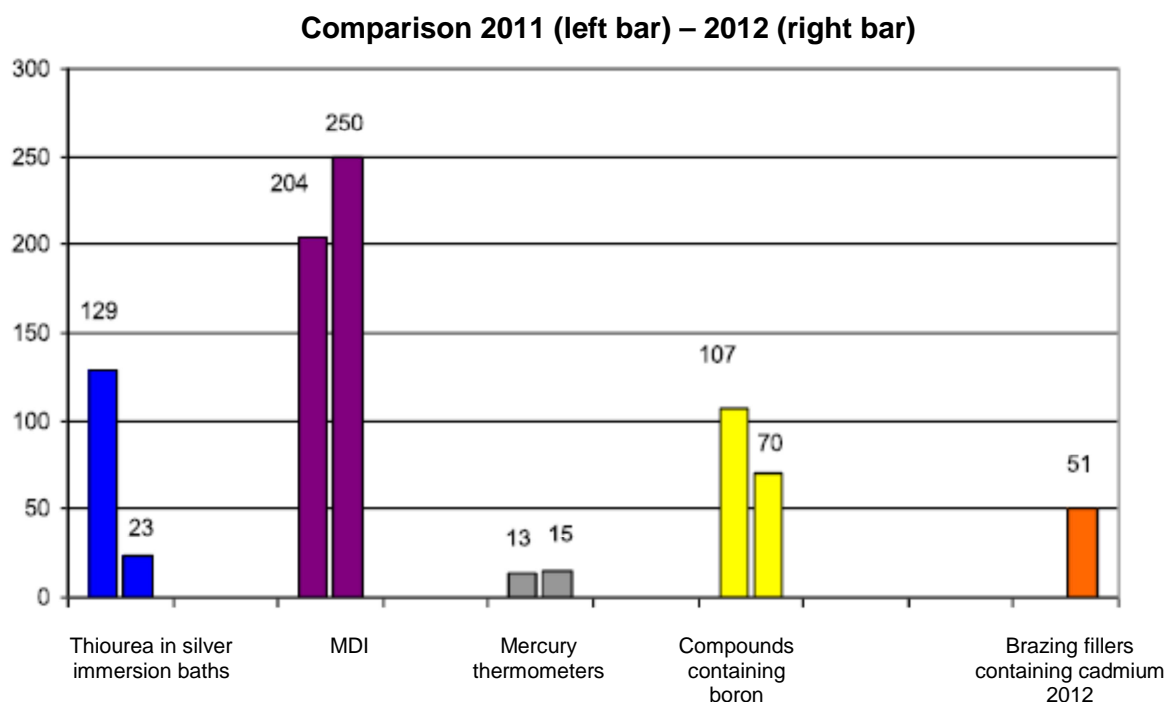


Fig. 12: New substances 2011/2012

## CLEEN in Europe

Within the scope of the market surveillance of German internet portals, illegal products advertised by foreign sellers are encountered time and time again. During the course of the project, the number of detected products being sold by foreign sellers has risen dramatically. In 2012, 64 of these products were detected (see Fig. 13).

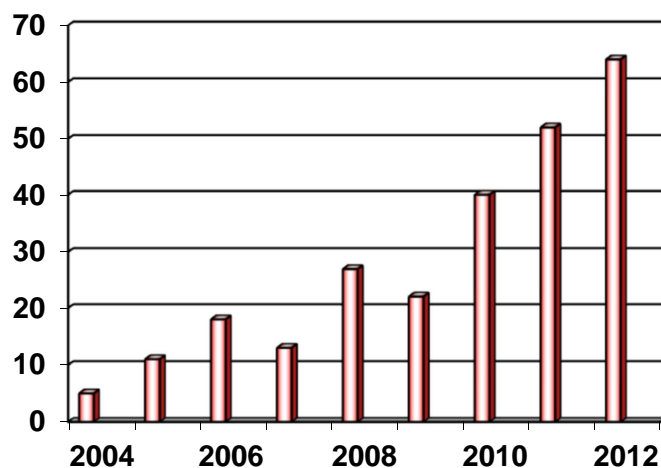


Fig. 13: Number of products on offer from foreign sellers

These products advertised by foreign sellers show that the online trading of chemicals is increasingly extending to the whole of Europe. As a result, a harmonised approach across Europe is required.

CLEEN (**C**hemicals **L**egislation **E**uropean **E**nforcement **N**etwork) is an informal network of European countries that aims to coordinate and improve the enforcement of EU chemicals legislation. CLEEN provides the opportunity for improved collaboration throughout Europe in terms of monitoring online trade.

On 1 March 2011, the CLEEN project "e-commerce II" was launched on our initiative.

The project comprises the monitoring of toxic and very toxic substances, biocides and halons, as well as raw materials that can be used for the manufacture of explosives.

Belgium, the UK, the Netherlands, Norway, Poland, Sweden, Spain and Switzerland are involved in the project, alongside Germany.

The monitoring phase of the CLEEN project commenced in March 2011. The intention is to improve the monitoring of national and transnational trade in chemicals online and to improve the exchange of information and experiences between the countries involved.

In a preliminary evaluation on the occasion of the 13th annual CLEEN conference in September 2012, the project partners reported 1180 cases of illegal products being sold, against which the authorities had taken action. The vast majority of these cases were discovered on a large online auction site (672), followed by online shops (275) and various other auction sites (144). The majority of complaints related to products containing asbestos (34%) and illegal biocidal products (30%), followed by toxic and very toxic substances (15%).

As the online monitoring of the chemical trade was first established with the help of this project in most of the countries involved, the total results are affected markedly by the German results, with the exception of biocides and halons.

## Measures

### Enforcement measures

The requirements and prohibitions of chemical legislation only function if corresponding enforcement measures are carried out in the event of infringements.

When products are detected that are clearly being sold illegally on online auction sites, the now four supervisory state authorities initiate the immediate deletion of these from the online auction site in question, in order to prevent their sale.

The supervisory authorities establish the address of the seller directly from the auction site if it cannot be established from the imprint as is the case with online shops, and send the deleted listing together with the address of the seller to the responsible federal state for verification locally.

In the event of items that only rouse suspicion of not being permitted, the listing and the address of the seller are sent to the responsible state authority with a request for verification, which then determines the subsequent enforcement measures.

For online shops, it is not possible for the supervisory authorities to delete the products on offer. These are instead forwarded to the responsible state authorities with all necessary documents, and these authorities can then arrange for the required measures.

We have been recording statistics on enforcement measures since 2007 (see Fig. 14). Whilst the responsible state authorities provided feedback in just 30% of cases in 2007, this figure has increased to an average of 57% over recent years. The following statistics show the enforcement measures by the supervisory authorities and the local responsible authorities, on the basis of the feedback received.

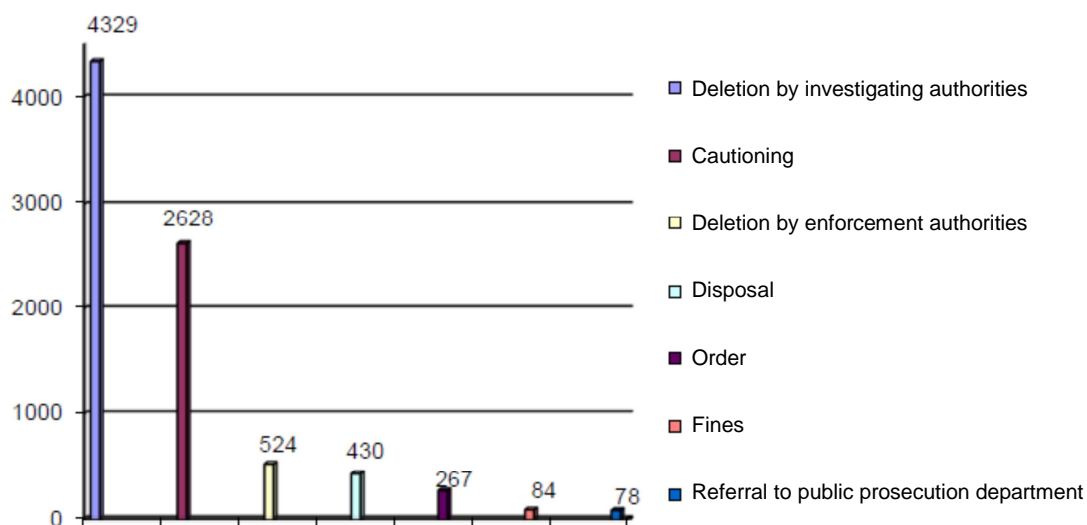


Fig. 14: Enforcement measures in the years 2007-2012

In the case of small quantities of methanol, deletion by the supervisory authorities marks the end of the enforcement process. Between 2007 and 2012, a total of 5682 cases of methanol being sold in small quantities were deleted, and these are not represented in Fig. 14.



### Test purchases:

Due to the fact that in the past the investigating authorities have repeatedly found that companies and private individuals often view the internet as a zone where laws do not apply, the Trade Supervisory Office of the Government of Upper Palatinate has consistently carried out test purchases in the event of suspicious products being offered for sale.

Within the scope of these test purchases, on four occasions Detia vole bait (T+), on three occasions potassium nitrate, on one occasion Unex (O) and on one occasion Bayrol (hydrogen peroxide) were successfully ordered online and supplied in 2010. Furthermore, four different OEM catalytic heaters were ordered online in order to carry out asbestos analyses.

The cases involving online pharmacies described on page 9 were especially serious. One of these pharmacies had already been informed by the responsible state authorities in the past and had confirmed to them that it would comply with the rules on dispensing chemicals.

In eight of the thirteen test purchases, the provisions of the Ordinance on the Transport of Dangerous Goods by Road, Rail and Inland Waterways [*Gefahrgutverordnung Straße, Eisenbahn und Binnenschifffahrt, GGVSEB*] were infringed. The cases were reported to the responsible state authorities accordingly.

### Initiatives of the authorities with regard to a large online auction site

Resulting from a meeting between the Ministry for the Environment of the State of North Rhine-Westphalia and the Government of Upper Palatinate in August 2006 and a subsequent meeting between the Government of Upper Palatinate and representatives of a large online auction site in June 2009, it was agreed that the online auction site would implement warnings for especially critical products (e.g. asbestos, methanol, oxidising substances) and that these would link to guides created by us as well as our official 'About me' page.

The warnings appear automatically when listings are created. By linking these to our 'About me' page and guides, every seller is automatically informed about the legal requirements and consequences of selling these products.

Users of this online auction site accessed our advice pages a total of over 31,800 times up to the end of 2012. We assume that these guides help ensure that the number of 'illegal' products for sale is not even higher.

Furthermore, when modifying its internal filters to automatically filter out illegal products, the online auction site took our experiences from the detection process into consideration and has continued to optimise the filters at our request.

### Principles of good online practice

Within the scope of the project, small and medium-sized enterprises are offered support with regard to trading online in a reputable manner and the enforcement authorities are offered support with regard to monitoring it professionally. Depending on the potential danger of a chemical, its intended purpose and the customers, legal requirements described in various national and European policies need to be taken into consideration.

For this purpose, the Saxony-Anhalt State Office for Environmental Protection played a leading role, developing the guidelines 'Good online practice for the trading of chemicals'.

The guidelines follow the natural work flow. First of all, with the help of a flow chart, the user determines which of the principles need to be taken into consideration for the substances he/she is selling online. The substances' hazardous characteristics, which must be declared on the packaging, serve as selection criteria. The more dangerous the characteristics of a substance, the greater the number of rules to be considered. The guidelines subsequently list the principles individually. These include the conditions regarding the supply of substances to private or only commercial customers, additional regulations or exceptions for certain substances etc.



Insofar as advisable, templates are provided for websites as well as practical advice, for example about secure procedures to verify the age of the customer.

The annex to the guidelines contains a detailed account of the legal basis for each principle with comments. The information was coordinated by the 'online monitoring' group of experts together with the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. An update will be made as and when the law requires it.

Since 2009, the guidelines have been available on the Federal/Federal State Working Committee Chemical Safety (BLAC) website [www.blac.de](http://www.blac.de) in the 'Publikationen' [Publications] section under the heading 'Überwachung des Internethandels' [Monitoring online trading].

#### Sending informative letters:

If products are deleted from online auction sites, the auction sites send a general informative letter to the seller. It is often the case that these informative letters do not clearly indicate the reasons behind the deletion, or that the reasons stated do not apply in full. Many sellers are unable to understand why their products have been deleted and subsequently try to put their product online again.

As a result, the 'online monitoring' group of experts decided to create informative letters for specific (groups of) substances. These informative letters, which Lower Saxony took a leading role in developing, are available to all public officials in the internal area of the website of the Federal/Federal State Working Committee Chemical Safety (BLAC), following approval by the Federal/Federal State Working Committee Chemical Safety.

The local authorities can then use these letters to inform the sellers of deleted products accordingly. These informative letters can also be used to inform the local officials, who are now frequently overwhelmed by the complex rules on dispensing chemicals.

#### Exchange of experiences and co-operation with other authorities

The 'online monitoring' group of experts has exchanged information and worked together with the following authorities regarding sharing knowledge from the field of online monitoring:

- Central Authority of the Länder for Health Protection with regard to Medicinal Products and Medical Devices [*Zentralstelle der Länder für Gesundheitsschutz bei Arzneimitteln und Medizinprodukten*]
- The German Federal Office of Consumer Protection and Food Safety [*Bundesamt für Verbraucherschutz und Lebensmittelsicherheit*]
- The Federal Revenue Office for the South East [*Bundesfinanzdirektion Südost*]
- The State Criminal Investigation Offices [*Landeskriminalämter*]

Two examples of this co-operation are outlined below:

#### Raw materials for narcotics:

In 2008, the Government of Upper Palatinate, by chance, discovered six instances of gamma-butyrolactone (GBL) being sold online. Three of the sellers came from Germany, and the others came from Poland, England and the Netherlands. In industry, GBL is used as a solvent and paint stripper. However, GBL is also a prodrug of the narcotic gamma-hydroxybutyric acid (GHB), known as liquid ecstasy. GBL is converted to GHB in the bloodstream. Therefore, GBL has a euphoric effect when taken orally and creates a state of ecstasy in part similar to that following alcohol intoxication. GBL is therefore included on the monitoring list of the German Federal Office of Criminal Investigation (*Bundeskriminalamt*).

The sellers detected were selling GBL as a wheel rim cleaner for approximately EUR 70 to 100 per litre. It was also noted that the German sellers were not being monitored. The cases were referred to the drugs squad of the State Office of Criminal Investigation for Bavaria.

### Isobutyl nitrite (poppers):

On the basis of a RAPEX notification in early 2009, it was established that leather care products containing isobutyl nitrite (classified as carcinogenic, Cat. 2) were being sold without labelling in the European market. An internet search revealed that Austrian, British and Dutch traders were selling so-called poppers online, which contained pure isobutyl nitrite. The sellers declared these products online as flavouring substances or room fragrances. Furthermore, the websites clearly indicated that these products are used as sexual stimulants by heterosexual and gay communities. When inhaled, these substances reduce pain sensitivity whilst also increasing sensitivity during orgasm.

As a result, we contacted the authorities for medicinal products in order to establish whether these products classify as medicinal products or whether they fall under the ban on sales of carcinogenic substances under the Chemicals Prohibition Ordinance [*ChemVerbotsV*] when declared as flavouring substances. The result was that these substances should be regarded as medicinal products regardless of any claims, as they clearly serve to influence bodily functions.

We referred an instance of poppers being sold by a German seller on a large online auction site to the competent authorities for medicinal products. As the competent authority, the Central Authority of the Länder for Health Protection with regard to Medicinal Products and Medical Devices [*Zentralstelle der Länder für Gesundheitsschutz bei Arzneimitteln und Medizinprodukten, ZLG*] dealt with this specific issue comprehensively.

### Legal matters:

In the past, special legal issues have repeatedly cropped up with regard to the enforcement of chemicals legislation when monitoring online trade. The 'online monitoring' group of experts collected these issues and the 'Chemical Legislation' committee of the Federal/Federal State Working Committee Chemical Safety (BLAC) answered them.

## Summary

The number of illegal products discovered within the scope of this BLAC project clearly shows how important the continual, national monitoring of online trade is in order to guarantee effective consumer protection. The results of the monitoring of various substance groups in the course of the project are striking proof of the ever-changing nature of the internet. For this reason, the monitoring strategies that have been implemented up until now must continue to be amended and further developed in the future.

Following initial scepticism from the enforcement authorities in certain federal states with regard to the point and purpose of online monitoring, the project has since been generally accepted due to its success, and it serves as an example for cross-border monitoring.

The high quality of this project is also evident from the fact that the members of the CLEEN project 'e-commerce II' have adopted the monitoring strategies and processes that we designed.

## ANNEX I

Special project run by the Trade Supervisory Office of the Government of Upper Palatinate:

### **Monitoring the supply of raw materials for the illegal production of explosives and other safety-related substances online**

Dr. Heymo Höcher, Prof. Dr. Peter Landauer

As a result of the BLAC project 'Monitoring the Online Trading of Chemicals', which was launched in 2004, as well as specific advice from the State Office of Criminal Investigation for Bavaria, the Trade Supervisory Office of the government of Upper Palatinate became aware of the special issues surrounding the online trade of raw materials that can be used for the manufacture of explosives. Accidents that have occurred during the manufacture of explosives, some of which have been very serious, demonstrate the high risk potential of these substances when misused.

In the past, the information required to manufacture explosives was only generally available to specialists. The wealth of information on the internet, and the ease with which it can be accessed, mean that it is now easy to obtain information regarding how to manufacture explosives, bombs and dangerous chemicals. In recent years this has resulted in the emergence of a growing scene of predominantly young people, who engage in the manufacture of these so-called 'homemades'. Within this scene, a lively exchange of all relevant information including 'self-promoting event videos' takes place online. The members of this scene are predominantly young amateur chemists, who tend to underestimate the dangers that their experiments pose to themselves and others. However, the explosives can also be used for criminal purposes and, in the worst case, terrorist purposes, as displayed by the attack that was attempted on the German Chancellor on 2 November 2010 using a parcel bomb filled with gunpowder. According to a statement by the Bavarian State Office of Criminal Investigations, the crossover between the amateur scene and the criminal field is often fluid.

The accidents that occur time and time again are proof of the dangers associated with handling the raw materials used for the manufacture of explosives for amateurs and their environment. Since 2000, there have been 204 casualties and 26 deaths in Germany resulting from the manufacture and handling of explosive materials (source: German Federal Office of Criminal Investigation, *Bundeskriminalamt*). In Bavaria alone, seven cases involving five casualties were made known to the State Office of Criminal Investigation in the year 2010 (January to October) (source: State Office of Criminal Investigation for Bavaria).

In summer 2008, the decision was taken – also at the instigation of the law enforcement authorities – to significantly tighten the rules on dispensing certain raw materials used for explosives and to include them in the Chemicals Prohibition Ordinance [*ChemVerbotsV*] in order to curtail the possibilities of misusing the raw materials associated with the manufacture of explosives.

Whilst the responsibility for monitoring the trade of the raw materials used for the manufacture of explosives lies with the competent authorities according to chemical legislation, the law enforcement authorities can, as a general rule, only take action if an offence involving explosives (manufacture, use and trade of explosives) has been committed or is imminent. However, a threat to people and the environment already exists at this stage.

The monitoring and prevention of the trading of raw materials associated with the manufacture of explosives therefore has a highly preventative function. Collaboration between the authorities involved with chemical legislation and the law enforcement authorities is indispensable in this matter, due to their different competences and responsibilities.

As there was insufficient knowledge about the online activities of users and the commercial channels in this field, the Government of Upper Palatinate has, since 1 October 2008, been investigating this issue in more detail within the scope of the two-year special project 'Monitoring the supply of raw materials for the illegal production of explosives and other safety-related substances online'.

## Aims

The aim of the project was to determine the extent of the illegal trade of chemicals involving raw materials used for explosives on the internet and to assess the resulting risk potential for users and society. The results obtained were to be used to develop suitable measures to reduce the possibilities for the misuse of chemicals. The intention was to develop strategies to enable a systematic investigation, recording process and risk assessment of chemical forums, relevant chat rooms and other communication platforms in the public and non-public domains.

Finally, the online spheres investigated were to be monitored with the intention of detecting and identifying illegal traders of chemicals and implementing the provisions of the Chemicals Prohibition Ordinance [*ChemVerbotsV*] relating to the supply of substances. Close collaboration with the State Office of Criminal Investigation for Bavaria was sought in order to be able to implement the aims effectively.

Another task was to investigate the commercial channels of the raw materials used for the manufacture of explosives in the 'scene'.

## Approach and summary of results:

First of all, suitable detection strategies were developed in order to find public and non-public chemical forums, relevant chat rooms and other communication platforms. The next step involved devising methods to systemically record online activities that had been found and to carry out a risk assessment of the online content detected. In this way, 26 forums that deal with chemistry in the broadest sense were recorded and categorised. These included five forums in which the members almost exclusively discussed topics related to explosives, such as manufacturing methods and procurement options.

The monitoring of these forums about explosives revealed that whilst the number of active members is relatively low, at approximately 1500, these forums present a very high risk to their members and the general public.

Investigation of the five forums relating to explosives revealed references to products that contain the raw materials used for explosives, as well as online shops where these are sold. We were able to prevent the further sale of the chemicals that did not take account of the rules on dispensing chemicals by most of these traders, with the help of local enforcement authorities.

Furthermore, a total of eleven traders were discovered, the majority of whom were anonymous, who offered nothing other than the raw materials used for explosives listed in the Chemicals Prohibition Ordinance [*ChemVerbotsV*], and other dangerous chemicals, some of which were explosives. This included three traders without their own website, operating almost exclusively within the forums. Five were selling the raw material potassium nitrate on their websites. The remaining three had a range of raw materials for the manufacture of explosives for sale on their pages.

By working together with the State Office of Criminal Investigation for Bavaria and the German Federal Office of Criminal Investigation (*Bundeskriminalamt*), a high level of effectiveness and efficiency was achieved over the course of the project, in terms of monitoring illegal commercial channels and pursuing the misuse of raw materials used for explosives.

The case involving a medium-sized online shop demonstrates the excellent way in which this collaboration functioned. By working together closely with the public prosecution department for Regensburg and the explosives department of the State Office of Criminal Investigation for Bavaria, we were able to determine the operator of the shop, who was living abroad. Furthermore, we were able to trace the shop operator's accomplices responsible for sending the chemicals, thereby preventing the further illegal sale of raw products used for explosives. During

a subsequent raid of the distributor's premises, authorised by the investigating authorities, a large quantity of relevant chemicals, including the explosive ammonium perchlorate, were seized. Subsequent raids on the homes of the customers of this online shop in Germany and Switzerland revealed a number of substances and mixtures, some of which were highly explosive. An arrest warrant against the operator of the online shop has since been issued.

Compared with the forums used for the exchange of information in the explosives scene, chat rooms seem to play a secondary role and it is almost impossible to monitor them systematically.

On the basis of the strategies and methods developed within the framework of this project, it is now possible to monitor the forums relating to explosives relatively quickly. This monitoring also encompassed a video platform that also contained references to suppliers of the raw materials used for the manufacture of explosives.

The monitoring of forums also revealed that the opportunities to procure the chemicals and raw materials needed for the manufacture of explosives from abroad were being used increasingly frequently. It is very likely that this trend will continue to increase as the monitoring measures within Germany continue to improve. As such, completely new approaches are required, which can only be developed together with other EU member states.

The other chemical forums identified do not pose a danger in terms of explosives, as they consciously distance themselves from the explosives scene. However, monitoring these forums did lead to numerous references to products containing dangerous substances, for which the rules on dispensing chemicals in the Chemicals Prohibition Ordinance [*ChemVerbotsV*] should be observed as well as references to the suppliers thereof.

In this way, we discovered a number of instances where biocides were being sold online contrary to the regulations, for example. For this reason, the Trade Supervisory Office of the Government of Upper Palatinate developed a two-year follow-up project involving monitoring the trade of biocides online as well as monitoring the disclosure and labelling requirements for online trading in accordance with REACH and CLP Regulations.

All in all, the monitoring of forums brought about huge improvements in terms of knowledge regarding the possibilities of procuring chemicals online. The monitoring measures that emerged from this project and the parallel informing of traders with regard to the legal limitations regarding the sale of chemicals constituted an important step towards combating the online trade of products and chemicals which did not comply with the provisions relating to the supply of substances.

## ANNEX II

Special project run by the Trade Supervisory Office of the Government of Upper Palatinate:

### **Product and chemical safety in online trading and e-commerce**

Dr. Heymo Höcher, Prof. Dr. Peter Landauer

The knowledge gained from the BLAC project 'Monitoring the Online Trading of Chemicals', which has been running since 2004, suggests that considerable violations regarding the trade of chemicals can also be expected in the fields of e-commerce that have not yet been monitored. Upon the provision of funding from the Bavarian Ministry of Labour, the Trade Supervisory Office of the Government of Upper Palatinate was able to carry out the two-year project 'Product and chemical safety online', launched at the start of 2011. This project set out to achieve a considerable contribution towards improving consumer protection regarding the online trade of substances.

The aims of the project were to develop and test strategies regarding the monitoring of the online trade of biocides

- that may not be brought onto the market
- to establish whether the classification and labelling requirements for biocides are complied with

and compliance with the REACH and CLP Regulations online with the following focal points:

- Obligations to supply information along the supply chain (SDS and eSDS)
- Checking the CLP classification and labelling requirements for the chemicals that are being sold

#### **1. Trade of biocides**

The trade of biocides constituted an extensive problem area that is not easy for experts to manage due to the complex legal situation and the multitude of biocidal products. The database for reported biocidal products run by the Federal Institute for Occupational Safety and Health [Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, BAuA] contains over 32,000 entries alone.

The basis for assessment during the operation was Directive 98/8/EC, which was replaced by the Biocidal Product Regulation (EU) 528/2012 on 1 September 2013. This directive regulates the placing of biocidal products on the EU market. According to this, products could only be marketed during the campaign period if they contained solely 'notified' active substances or substances that had already been included in Annex I, IA or II of Directive 98/8/EC and had been authorised.

Notified means:

- The active substance was placed on the market before 14 May 2000
- A dossier for the active substance has been submitted by the industry for evaluation with regard to inclusion in Annex I, IA or II of Directive 98/8/EC
- The active substance is not included in the 'phasing-out' list, for which non-inclusion in Annex I, IA or II of Directive 98/8/EC has been decided (The 'phasing-out' list contains approximately 200 active substances, which have been assigned to 23 product types e.g. wood protection agents, insecticides, disinfectants.)



Since 1 September 2006, products containing 'identified' active substances can no longer be marketed either.

Our project revealed that a very large number of biocides that are no longer allowed to be offered and sold are still being traded online. This relates almost exclusively to biocidal products manufactured by small and medium-sized companies, which often continue to sell these products due to ignorance or a lack of control measures to date relating to these products.

Due to the multitude of illegal products that were discovered, the first stage involved making contact with the manufacturer in order to initiate a voluntary recall. If the manufacturer was not willing to do this, the competent state authority responsible for supervising the area in which the seller was operating was informed and requested to take the necessary measures. The results are presented in detail below.

#### Biocides included in the 'phasing-out' list:

Illegal products were looked for in all 23 biocidal product types. Based on the large number of illegal products, it was clear from the outset of the project that it would be necessary to form a number of priorities for the investigation. As such, not all active substances for each product type were examined, but the investigation was restricted to active substances with contents classified as dangerous. Biocides containing very toxic and toxic active substances as well as those harmful to health were dealt with as a priority.

In the course of the project, 277 instances of 118 biocidal products containing active substances included in the 'phasing-out' list were discovered for sale, involving 73 manufacturing firms (see Fig. 1).

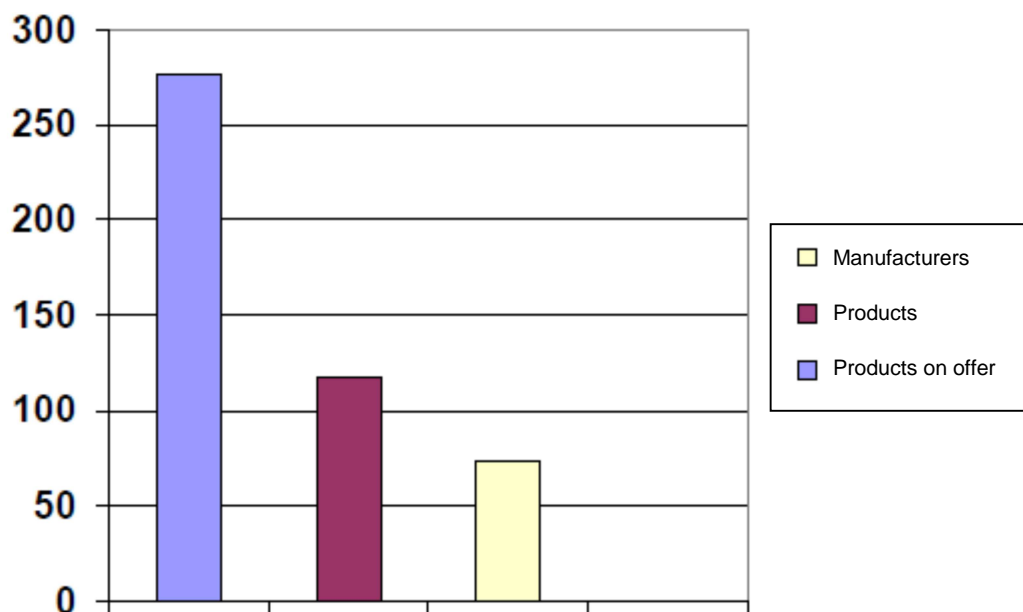


Fig. 1: Biocides containing active substances included in the 'phasing-out' list

With 155 instances altogether, the four types of products – seven (protective agents for films), eight (wood protection agents), eighteen (insecticides) and nineteen (repellents/attractants) – constituted more than half of all instances discovered.

### Biocides that have not been registered:

When looking for products that can no longer be marketed due to the Biocide Notification Ordinance [*Biozid-Meldeverordnung*], a total of 69 instances of 40 biocidal products that had not been registered were found on the market (see Fig. 2). The details of these instances were passed on. Of these, 35 biocidal products were discovered when investigating manufacturers' sales or product information pages online, and one was discovered by a reference made by the manufacturer. Four other instances were found on a large online auction site, including one product containing lindane. 23 copper-bearing anti-fouling products (ship paint) formed the focus of the investigation.

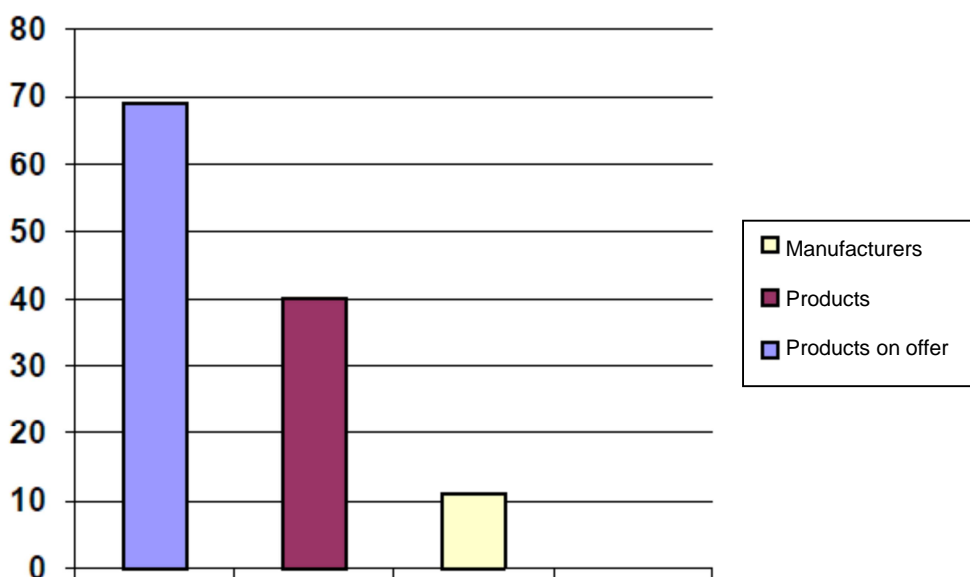


Fig. 2: Biocides that have not been registered

### Biocides containing identified active substances:

On 31 August 2006, the sales period for biocides containing one or more identified active substances came to an end. However, such products continued to be discovered for sale online. One reason for this could be that as per the list for biocidal products with identified active ingredients from the Federal Institute for Occupational Safety and Health [*Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, BAuA*], I-numbers continued to be assigned up until 24 July 2009. An investigation into this matter revealed that an automatic reporting system had been assigning I-numbers to incorrect entries, thereby falsely informing the applicant that the reporting had been executed correctly. As a result, by receiving the number, applicants were assuming that their products could be marketed.

The list for biocidal products from the Federal Institute for Occupational Safety and Health [*Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, BAuA*], contained 1665 products, and only a sample of these (approximately 5%) could be investigated. Within the scope of this sample, seven instances of five illegal biocidal products from four different manufacturers were discovered and referred to the responsible authorities.



## 2. REACH/CLP Regulations

Chemical legislation was fundamentally overhauled by the REACH and CLP Regulations. One of the aims of the REACH and CLP Regulations is to improve occupational and consumer protection. A focus of the REACH Regulation is that the manufacturers/importers determine the risks to human health associated with the chemicals and provide the user with advice regarding how to handle the chemicals safely in the form of a safety data sheet. These safety data sheets can be obtained online on many company websites.

Over the course of the project, 22 online safety data sheets relating to various chemicals were checked. Of these, only two (10%) had no cause for complaint. 20 of them (90%) did not comply with the requirements of Annex II of the REACH Regulation, which was amended by Regulation 453/2010/EC. Most of the checks of safety data sheets did not take place until towards the end of 2011, allowing enough time for the companies to update their safety data sheets to comply with the EC Regulation following its entry into force.

Eight safety data sheets (36%) contained incorrect information regarding the classification and/or labelling of the products investigated. These mainly involved products, the contents of which have been recently reclassified, such as MDI, boric acid and borax.

### Summary

The results of the two-year project revealed considerable shortcomings in terms of the online trade of biocidal products. In order to improve consumer protection in this field, it is necessary to ensure that the online trade of biocides is monitored in the long-term. The results from the project regarding this field have already fed into the BLAC project 'Monitoring the Online Trade of Chemicals', as the Hanseatic city of Bremen announced that it will take over the monitoring of the online trading of biocides from 2013, within the limits of the personnel capabilities existing there. The results of the project also revealed a number of shortcomings regarding the obligations for manufacturers/importers of chemicals to provide information. The monitoring of obligations relating to labelling and the provision of information in accordance with the REACH and CLP Regulations online would contribute greatly to occupational and health protection. The project results in this field also show a clear need for action in the future.