Reduction of environmental risks from the use of biocides: Environmental sound use of disinfectants, masonry preservatives and rodenticides

Annex VI: Workshop documentation: Reducing negative impacts of biocides use on the environment – Towards efficient EU legislation on 31st March and 1st April 2014
Reduction of environmental risks from the use of biocides: Environmental sound use of disinfectants, masonry preservatives and rodenticides

Annex VI: Workshop documentation: Reducing negative impacts of biocide use on the environment – Towards efficient EU legislation on 31st March and 1st April 2014

On behalf of the Federal Environment Agency (Germany)
## Content

1. Agenda  
2. List of participants  
3. Background paper: Best practice  
4. Background paper: Further training and education  
5. Background paper: Requirements for sales  
6. Background paper: Equipment for the application of biocidal products  
7. Background paper: Reduction of the use of biocides in sensitive areas  
8. Documentation World Café - Information and awareness raising  
9. Documentation World Café – Prohibition or restriction of certain modes of application  
10. Documentation World Café - Further aspects  
11. Presentations
## 1 Agenda

**Monday, 31st March 2014**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:30 – 12:40</td>
<td>Welcome and goals</td>
<td>Petra Greiner, UBA</td>
</tr>
<tr>
<td>12:40 – 12:55</td>
<td>Opening address from the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)</td>
<td>Sabine Gärtner, BMUB</td>
</tr>
</tbody>
</table>

### Introduction

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:55 – 13:10</td>
<td>Loss rates of urban biocides can exceed those of agricultural pesticides</td>
<td>Alfredo Alder, EAWAG (CH)</td>
</tr>
<tr>
<td>13:25 – 13:40</td>
<td>The view of the EU Commission and ongoing projects</td>
<td>Christophe Kusendila, EU Commission</td>
</tr>
<tr>
<td>13:40 – 13:55</td>
<td>Discussion</td>
<td>All participants</td>
</tr>
</tbody>
</table>

### Detailed discussion of policy proposals

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:05 – 14:20</td>
<td>Introduction into the discussion of policy proposals</td>
<td>Stefan Gartiser, Hydrotox GmbH and Ingrid Nöh, UBA</td>
</tr>
<tr>
<td>14:20 – 15:20</td>
<td>Further training and education</td>
<td>Michael Burkhardt, HSR University of Applied Sciences Rapperswil (CH)</td>
</tr>
<tr>
<td></td>
<td>Information to reduce Biocides in Façade Coatings</td>
<td></td>
</tr>
<tr>
<td>15:40 – 16:45</td>
<td>Best practice and alternative control measures</td>
<td>Stefanie Wieck, UBA</td>
</tr>
<tr>
<td></td>
<td>The relationship between efficacy and sustainability</td>
<td>Ulrike Frank, KEMI (SE)</td>
</tr>
<tr>
<td></td>
<td>Guideline CEN 404 on good practice in professional application of biocides in civil areas</td>
<td>Maristella Rubbiani, L'Istituto Superiore di Sanità (IT)</td>
</tr>
<tr>
<td>16:45 – 17:45</td>
<td>Requirements for sales</td>
<td>Beatrice Schwarz-Schulz, UBA</td>
</tr>
<tr>
<td></td>
<td>Restrictions on sales of biocides in Belgium</td>
<td>Herlinde Vanhoutte, FPS Health, Food chain safety and Environment (BE)</td>
</tr>
</tbody>
</table>
**Tuesday, 1<sup>st</sup> April 2014**

### Detailed discussion of policy proposals

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 – 10:00</td>
<td>Equipment for the application of biocides</td>
<td>Stefan Gartiser, Hydrotox GmbH</td>
</tr>
<tr>
<td></td>
<td>Testing of plant protection equipment</td>
<td>Dirk Rautmann, Institute for Application Techniques in Plant Protection, JKI</td>
</tr>
<tr>
<td>10:00 – 11:00</td>
<td>Reduction of biocides use in sensitive areas</td>
<td>Michael Burkhardt, HSR University of Applied Sciences Rapperswil (CH)</td>
</tr>
<tr>
<td></td>
<td>Finnish regulation of anti-foulings</td>
<td>Jaana Pasanen, Tukes (FI)</td>
</tr>
</tbody>
</table>

### Discussion of further proposals

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:30 – 12:15</td>
<td>World Café</td>
<td>All participants</td>
</tr>
<tr>
<td></td>
<td>• Information and awareness raising</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Prohibition or restriction of certain modes of application</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Further proposals</td>
<td></td>
</tr>
<tr>
<td>12:15 – 13:20</td>
<td>Summary and discussion on further steps</td>
<td>All participants</td>
</tr>
<tr>
<td>13:20-13:30</td>
<td>Closing remarks</td>
<td>UBA</td>
</tr>
</tbody>
</table>
## List of participants

<table>
<thead>
<tr>
<th>Forename</th>
<th>Surname</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andy</td>
<td>Adams</td>
<td>Bayer Crop Science</td>
</tr>
<tr>
<td>Alfredo</td>
<td>Alder</td>
<td>EAWAG</td>
</tr>
<tr>
<td>Michael</td>
<td>Burkhardt</td>
<td>HSR University of Applied Sciences Rapperswil</td>
</tr>
<tr>
<td>Maura</td>
<td>Calliera</td>
<td>OPERA Research Centre</td>
</tr>
<tr>
<td>Eva</td>
<td>Dressler</td>
<td>Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety</td>
</tr>
<tr>
<td>Georg</td>
<td>Eckel</td>
<td>VFoS - Verein zur Förderung ökologischer Schädlingsbekämpfung e.V.</td>
</tr>
<tr>
<td>Heiko</td>
<td>Faubel</td>
<td>IHO - Industrieverband Hygiene und Oberflächenschutz</td>
</tr>
<tr>
<td>Ulrike</td>
<td>Frank</td>
<td>Swedish Chemicals Agency</td>
</tr>
<tr>
<td>Siegfried</td>
<td>Ganser</td>
<td>Federal Ministry of Food and Agriculture</td>
</tr>
<tr>
<td>Stefan</td>
<td>Gartiser</td>
<td>Hydrotox GmbH</td>
</tr>
<tr>
<td>Sabine</td>
<td>Gärtner</td>
<td>Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety</td>
</tr>
<tr>
<td>Monika</td>
<td>Gelhausen</td>
<td>Federal Ministry for Economic Affairs and Energy</td>
</tr>
<tr>
<td>Rikke</td>
<td>Gleerup Ovesen</td>
<td>Danish Environmental Protection Agency</td>
</tr>
<tr>
<td>Simone</td>
<td>Grätz</td>
<td>Federal Institute for Occupational Safety and Health (BAuA)</td>
</tr>
<tr>
<td>Petra</td>
<td>Greiner</td>
<td>Federal Environment Agency (UBA)</td>
</tr>
<tr>
<td>Lena</td>
<td>Gruhn</td>
<td>Federal Institute for Occupational Safety and Health (BAuA)</td>
</tr>
<tr>
<td>Tim</td>
<td>Harris</td>
<td>Health &amp; Safety Executive (UK)</td>
</tr>
<tr>
<td>Sylwester</td>
<td>Huszal</td>
<td>Polish Office for registration of medicinal products, medical devices and biocidal products</td>
</tr>
<tr>
<td>Stefanie</td>
<td>Jäger</td>
<td>Federal Institute for Occupational Safety and Health (BAuA)</td>
</tr>
<tr>
<td>Barbara</td>
<td>Jahn</td>
<td>Federal Environment Agency (UBA)</td>
</tr>
<tr>
<td>Marianne</td>
<td>Keck</td>
<td>Federal Ministry of Agriculture, Forestry, Environment and Water Management</td>
</tr>
<tr>
<td>Jutta</td>
<td>Klasen</td>
<td>Federal Environment Agency (UBA)</td>
</tr>
<tr>
<td>Christophe</td>
<td>Kusendila</td>
<td>European Commission</td>
</tr>
<tr>
<td>Adrien</td>
<td>Lantieri</td>
<td>Milieu Ltd - Law &amp; Policy Consulting</td>
</tr>
<tr>
<td>Jorgen</td>
<td>Larsen</td>
<td>Danish Environmental Protection Agency</td>
</tr>
<tr>
<td>Didier</td>
<td>Leroy</td>
<td>CEPE - European Council of the Paint, Printing Ink and Artists’ Colours Industry</td>
</tr>
<tr>
<td>Armin</td>
<td>Leyendecker</td>
<td>DSV - Deutscher Schädlingsbekämpfer Verband e.V.</td>
</tr>
<tr>
<td>Paul</td>
<td>Mason</td>
<td>SC Johnson EurAFNE Ltd.</td>
</tr>
<tr>
<td>Anu</td>
<td>Meriste</td>
<td>Estonian Health Board</td>
</tr>
<tr>
<td>Burkhard</td>
<td>Mielke</td>
<td>LANXESS Deutschland GmbH</td>
</tr>
<tr>
<td>Silke</td>
<td>Müller-Knoche</td>
<td>Federal Environment Agency (UBA)</td>
</tr>
<tr>
<td>Ingrid</td>
<td>Nöhl</td>
<td>Federal Environment Agency (UBA)</td>
</tr>
<tr>
<td>Jaana</td>
<td>Pasanen</td>
<td>Finnish Safety and Chemicals Agency (Tukes)</td>
</tr>
<tr>
<td>Jonathan</td>
<td>Plößl</td>
<td>Thor GmbH</td>
</tr>
<tr>
<td>Forename</td>
<td>Surname</td>
<td>Organisation</td>
</tr>
<tr>
<td>----------</td>
<td>-----------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Dirk</td>
<td>Rautmann</td>
<td>Institute for Application Techniques in Plant Protection, Julius Kühn-Institute</td>
</tr>
<tr>
<td>Evelyn</td>
<td>Roßkamp</td>
<td>German Chemical Industry Association (VCI)</td>
</tr>
<tr>
<td>Maristella</td>
<td>Rubbiani</td>
<td>L'Istituto Superiore di Sanità</td>
</tr>
<tr>
<td>Erik</td>
<td>Schmolz</td>
<td>Federal Environment Agency (UBA)</td>
</tr>
<tr>
<td>Ute</td>
<td>Schoknecht</td>
<td>Federal Institute for Materials Research and Testing</td>
</tr>
<tr>
<td>Beatrice</td>
<td>Schwarz-Schulz</td>
<td>Federal Environment Agency (UBA)</td>
</tr>
<tr>
<td>Sascha</td>
<td>Setzer</td>
<td>Federal Environment Agency (UBA)</td>
</tr>
<tr>
<td>Susanne</td>
<td>Smolka</td>
<td>Pesticide Action Network - Germany</td>
</tr>
<tr>
<td>Roland</td>
<td>Solecki</td>
<td>Federal Institute for Risk Assessment (BIR)</td>
</tr>
<tr>
<td>Ellen</td>
<td>Thom</td>
<td>Endura S.p.A.</td>
</tr>
<tr>
<td>Stijn</td>
<td>Van Hees</td>
<td>Belgian Federal Public Service Health, Food Chain Safety and Environment</td>
</tr>
<tr>
<td>Herlinde</td>
<td>Vanhoutte</td>
<td>Belgian Federal Public Service Health, Food Chain Safety and Environment</td>
</tr>
<tr>
<td>Joke</td>
<td>Wezenbeek</td>
<td>Dutch National Institute for Public Health and the Environment (RIVM)</td>
</tr>
<tr>
<td>Stefanie</td>
<td>Wieck</td>
<td>Federal Environment Agency (UBA)</td>
</tr>
</tbody>
</table>
# Best Practice and Alternative Control Measures

## Goals
Providing tools to users of biocidal products enabling them to target use to essential cases and in cases identified as essential to using biocidal products in a sustainable way.

## Possible measures to be discussed

1. Establish the necessary conditions enabling users to decide whether an application is really necessary
   - a) Promote the establishment of advisory services
   - b) Define acceptable thresholds of infestation

2. Establish the necessary conditions enabling users to chose the method with the least risk to human health and the environment
   - a) Develop PT-specific best practice documents / PT-specific and or sector-specific guidelines
     - Give incentives to encourage users to apply them
     - Include them into curricula for training an education

3. Development of best practice documents for the different uses of biocidal products and integration of the need to follow these codes in the proper use according to Article 17 of the Regulation 528/2012.

## Problem description and justification of measure
Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides obliges Member States to put the necessary conditions for implementation of integrated pest management (IPM) into place. This was done acknowledging the fact that the application of general principles and sector-specific guidelines of IPM by users of plant protection products would contribute to the reduction of risks to human health and the environment and to the reduction of the dependency on the use of pesticides (see recital 18 of the above Directive). Many biocidal products pose similar risks to human health and the environment. Hence their reduction is just as much worth aiming at. The question is if and how the provisions on IPM for plant protection products could be transposed into EU-legislation on biocidal products. We would like to discuss this question at the workshop.

One way of tackling this issue could be the dissemination of knowledge about best practices and appropriate biocide-free alternatives through best practice documents. Several best practice documents for the biocidal sector have been developed in national or European working groups and published by authorities, professional associations or national and European standards. In 2010, the European Commission initiated a study on the development and dissemination of best practice on sustainable use of biocidal products. The review identified a large number of existing documents available, but also gaps in certain usage areas. For several sectors with biocides use there are Best Practice Reference Documents (BREFs) available developed under the Industrial Emissions Directive 2010/75/EU (formerly IPPC Directive). Examples are cooling water, intensive rearing of poultry and pigs, tanning of hides and skins, or pulp and paper industry. However, biocides are not specifically addressed in these BREFs, which focus on emission control as a whole. Overall, a consistent and EU-wide strategy seems to be
lacking and the exchange and coordination among experts on European level is limited. As the best practice documents are not legally binding, the inclusion of the need to follow the codes of best practices in the Regulation 528/2012 would be a feasible measure to make the best practice mandatory.

We would like to discuss the following questions:

1. For which PTs would the implementation of IPM be especially relevant?
2. The implementation of which elements of integrated pest management would make sense for the use of biocidal products?
3. How to achieve standardized best practice-documents / PT-specific and or sector-specific guidelines?
   a) How to give incentives for users to apply them?
   b) How to make their application obligatory and verifiable?

**Examples from other laws and provisions**

**Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides**

The Directive defines in Article 3, IPM as the “careful consideration of all available plant protection methods and subsequent integration of appropriate measures that discourage the development of populations of harmful organisms and keep the use of plant protection products and other forms of intervention to levels that are economically and ecologically justified and reduce or minimise risks to human health and the environment.” In Article 14 it obliges the Member States to take all necessary measures to promote low pesticide-input pest management and to ensure that IPM can be implemented. The implementation of crop or sector-specific guidelines shall be encouraged. The general principles of IPM are defined in Annex III of the Directive. This includes for example the preference of non-chemical methods, the need of threshold values for harmful organisms or preventive measures to reduce the use of plant protection products.


Article 55 of the Regulation requests that plant protection products shall be used properly. This shall, amongst others, comply with the general principles of IPM, as it is requested in the above mentioned article 14 of the Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides and specified in the Annex III.
# FURTHER TRAINING AND EDUCATION

<table>
<thead>
<tr>
<th>Goals</th>
<th>Making professional users aware of the risks arising from the use of biocidal products and providing them with the necessary know-how to minimise those risks.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible measures to be discussed</td>
<td>Implementation of obligatory training and certification schemes for professional users of biocides by:</td>
</tr>
<tr>
<td></td>
<td>1. ensuring that all professional users and distributors have access to appropriate training (initial and additional),</td>
</tr>
<tr>
<td></td>
<td>2. defining the training curricula in a way that users and distributors acquire sufficient knowledge needed for reducing risks arising from the use of biocides including subjects such as sustainable use of biocides, biocide-free alternatives, preventive measures, a ranking of pest control and environmental protection and the codes of best practises that are available for specific uses (see fact sheet on “Best practice and alternative control measures”). Ensuring that these curricula are adjusted to scientific and technical progress.</td>
</tr>
<tr>
<td></td>
<td>3. ensuring that the training is conducted only by officially accredited and licensed institutions,</td>
</tr>
<tr>
<td></td>
<td>4. establishing certification systems to record training,</td>
</tr>
<tr>
<td></td>
<td>5. ensuring that the certificates provide evidence of sufficient knowledge of the defined training subjects</td>
</tr>
<tr>
<td></td>
<td>6. establishing an independent advisory service to support professional users using biocidal products.</td>
</tr>
<tr>
<td>Problem description and justification of measure</td>
<td>According to recital 8 of Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides “it is essential that Member States set up systems of both initial and additional training for distributors, advisors and professional users of pesticides and certification systems to record such training so that those who use or will use pesticides are fully aware of the potential risks to human health and the environment and of the appropriate measures to reduce those risks as much as possible.” It is obvious that this is just as much valid for biocides as for plant protection products. Nevertheless, there is no such legal provision for users of biocides. Without training, the dissemination of best practices cannot be ensured. Professional education and training is obligatory in many Member States but limited to certain PTs and limited to certain users (mostly pest control workers and public health operators). In Germany for example for the use of antifouling agents (PT 21), professional users (painters and ship building craftsmen) are trained, but in many cases untrained staff is engaged in ship yards. Moreover, no harmonisation of these requirements exists at European level. In Germany in contrast to plant protection products there is no advisory service to support users of biocidal products on-site. This leads to a lack of communication that hinders the implementation of new techniques and risk mitigation measures.</td>
</tr>
</tbody>
</table>
**Examples from other laws and provisions**

**Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides**

According to Article 5 of the Directive professional users, distributors and advisers should have access to appropriate training. Member States shall establish certification systems providing evidence of sufficient knowledge regarding the training subjects. These certification systems shall include requirements and procedures for the granting, renewal and withdrawal of certificates. The Directive has set up training requirements and certification schemes for professional users of plant protection products. The training subjects are listed in Annex I of the Directive.

**National regulations for biocidal products**

In the biocide sector, many member States have implemented training requirements for certain PTs (see COWI study¹, p.83f).

**German Technical Rules for Hazardous Substances (TRGS)**

For example the TRGS 523, which describes the curriculum for the training of pest controllers, includes safety and occupational health, relevant laws, information sources, operational procedures, use and maintenance of equipment, handling and use of hazardous chemicals and pest control agents, risk mitigation measures, avoidance of environmental contamination, monitoring of pests, planning and realisation of pest control measures, consultancy of customers, and quality assurance. Many of these elements correspond to the items described in Annex I of Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides.

**Issuing of biocidal product authorisations and specifying their content**

In Germany the need for proper training on the use of biocidal anticoagulant rodenticides was enforced through conditions at the stage of product authorization.

---

¹ COWI 2009. Assessment of different options to address risks from the use phase of biocides. Final report on behalf of the European Commission Environment Directorate-General, March 2009, Kongens Lyngby Denmark

# REQUIREMENTS FOR SALES

**Goals**

Minimizing misuse and unnecessary applications by accommodating rules for sales to the risks biocidal products pose to human health and the environment.

**Possible measures to be discussed**

1. Requirements for sales of biocides:
   a) Prohibition of self-service and internet-sales for biocidal products
   b) Ensure that biocidal products are only sold by qualified trained persons
   c) Consideration whether certain biocidal products could be excluded from such an obligation, for instance low-risk products according to Annex I of Regulation (EU) No. 528/2012.
   d) Obligation of distributors to provide information to non-professional users regarding the risks for human health and the environment and regarding preventive or alternative biocide-free measures.
   e) Sales of biocidal products solely authorised for professional use to qualified trained persons only.

2. Examination whether there could be restrictions laid down on advertisement in order to prevent unnecessary uses.

**Problem description and justification of measure**

Misuse and unnecessary application of biocidal products are important factors that can lead to unnecessary emissions of biocides into the environment. Often, lack of awareness of risks and/or lack of knowledge on terms and conditions of use of biocidal products account for misuse or unnecessary application. The moment of sale is an important opportunity in the distribution chain where awareness can be raised and information can be passed on to users regarding risks, possible alternatives and the safe use of biocides. This is acknowledged for plant protection products by Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides (recital 9) which consequently lays down requirements for sales. From our point of view there is no justification to miss this opportunity for biocides while seizing it for plant protection products.

There are two practical examples for problems arising from the lack of requirements for sales in Germany that we would like to introduce into the discussions:

In Germany plant protection products must not be sold by self-service while for biocidal products (e.g. insecticides), which are based on identical active substances, self-service is allowed. This difference cannot be justified since it infringes the basic principle that legal practices should be balanced and appropriate.

Also, in Germany there are currently problems with certain rodenticides containing 2nd generation anticoagulants. Because of the high risk they pose to the environment and because of the risk of target-organisms developing resistance, these biocidal products are authorised for professional use only. Provisions on sale however are not part of the conditions laid down in the authorisation. Therefore, non-professional users can legally buy these products while not being allowed to use them. As use in the private sector can hardly be controlled, we fear there will be misuse.
Examples from other laws and provisions

Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides

The requirements for sales of pesticides are regulated under Article 6 of Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides. Member States are obliged to ensure that distributors have enough staff holding a certificate to provide information on the risks and safe use of pesticides to customers on the one hand. On the other hand only persons holding a certificate are allowed to buy pesticides authorised for professional use. Furthermore, Member States shall require distributors selling pesticides to non-professional users to provide general information regarding risks and usage of pesticides and low-risk alternatives. Member States may require pesticide producers to provide such information.

German Plant Protection Law of 6. February 2012

The German plant protection law goes further than the Directive 2009/128/EC and contains provisions on the following topics:

(1) Plant protection products only authorized for professional use shall only be sold to trained customers with a certificate. The person selling the products has to request the certificate of the customer.

(2) Plant protection products must not be placed on the market through vending machines or other types of self-service.

(3) The staff has to inform the customer about the appropriate use of the products in accordance with regulations, especially about prohibitions and limitations.

(4) In addition to that, while selling products to non-professional users the staff has to provide general information regarding risks for human health and the environment including in particular information on user protection, proper storage, handling and application as well as on safe disposal and information on low-risk alternatives.

(5) If a distributor violates legal provisions repeatedly, the sale of plant protection products by this distributor shall wholly or partly be prohibited for up to five years.
# Equipment for the Application of Biocidal Products

## Goals
Ensure that equipment being placed on the market is up to the state of the technology as far as requirements of risk reduction are concerned. Making sure that the condition of equipment already in use is such that adverse impacts on human health and the environment are minimized.

## Possible measures to be discussed
1. Amendment of Directive 2006/42/EC on machinery to include machinery and equipment for the application of biocidal products.
2. Provisions for the inspection of machinery and equipment for the application of biocidal products already in use. These should include:
   a) defined intervals for inspections
   b) defined requirements to be satisfied in order to achieve a high level of protection for human health and the environment,
   c) regular calibrations and technical checks by professional users of equipment (in accordance with the appropriate training received as provided for in the respective provisions on “Training”),
   d) certificates designed to allow the verification of inspections and
   e) ask Member States to establish national registers for machinery and equipment with favoured properties (e.g. efficient application, high drift reduction, reduced consumption).

## Problem description and justification of measure
According to recital 2 of Directive 2009/127/EC amending Directive 2006/42/EC with regard to machinery for pesticide application, the design, construction and maintenance of machinery for pesticide application play a significant role in reducing the adverse effects of pesticides on human health and the environment. Whether plant protection products or biocides are concerned: Badly maintained or inappropriate equipment may cause undesired losses or overuses leading to unnecessarily high exposure. The environmental relevance becomes especially apparent when thinking of uses such as large-scale outdoor spraying of insecticides. The state of the technology however allows equipment to be designed e.g. to enable drift-reduction, safe filling and emptying and easy and thorough cleaning and to prevent leakage. Practical examples are that vacuum pressure impregnation of wood preservatives may reduce leaching during the use phase or that ultra-low droplet size of insecticides may reduce the overall amount of biocides applied. Although there are several technical ISO or CEN standards for the application equipment for some biocidal products, a systematic evaluation of their impact on sustainable use and their current misuse is lacking. The unregulated use of equipment for the application of biocidal products by non-professional users may cause undesired emissions as well. This is for example the case with spray applications of exterior paints. While the respective biocidal products are not promoted for non-professional users, the equipment for the spray application is. This leads to inappropriate applications due to missing knowledge and awareness of the nonprofessional users. We would like to discuss whether this problem needs further regulation as well.
Examples from other laws and provisions

**Directive 2009/127/EC amending Directive 2006/42/EC with regard to machinery for pesticide application**

The Directive 2006/42/EC on machinery covers the equipment for the application of plant protection products with the exemption of certain handheld equipment or equipment that represents a very low scale of use.

**Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides**

The Directive describes in Article 8 the rules for the inspection of equipment in use. It requires regular inspections that verify that the equipment satisfies the relevant requirements for achieving a high level of protection for human health and the environment. These requirements are specified in Annex II of the Directive. Professional users shall conduct regular calibrations and checks. The Member States have to establish certification systems to ensure that the inspections can be traced back on national and EU level.

**International standards**

For some application equipment of biocidal products, international standards exist, which partly are also used for the application of plant protection products. Examples are:

- EN ISO 16119-1:2013 Agricultural and forestry machinery - Environmental requirements for sprayers - Part 1: General (ISO 16119-1:2013)
- EN 1953:2013 Atomising and spraying equipment for coating materials - Safety requirements
- The CEN Technical Committee CEN//TC 402 is in charge of standardization in the field of domestic swimming pools.
- The ISO 20966 (2007) “Automatic milking installations - Requirements and testing
- The German Technical Rules for Hazardous Substances TRGS 523 on pest control requires that the equipment for application of pest control agents such as spraying or fogging equipment may only be applied according to the operating instructions of the supplier and must be checked for functional and safety efficiency at least once a year. However, mainly mechanical safety measures are described.
REDUCTION OF THE USE OF BIOCIDES IN SENSITIVE AREAS

Goals

Preventing biocides from entering water bodies. Minimizing emissions of biocides into protected areas and areas used by the general public.

Possible measures to be discussed

Restriction of biocide use in sensitive areas such as areas close to or in water bodies, protected areas¹ and areas used by the general public (e.g. parks, school grounds, playgrounds) by:

1. giving preference to preventive measures or biocide-free alternatives,
2. if no biocide-free alternatives are available, giving preference to “low-risk biocidal products” (according to Article 25 of Regulation (EU) 528/2012 concerning the making available on the market and use of biocidal products) or to products not classified as dangerous for the aquatic environment and not containing priority hazardous substances according to Directive 2000/60/EC (Water Framework Directive),
3. ensuring that all organizational measures are taken to prevent negative impact of biocides on the aquatic environment,
4. ensuring that all technical measures are taken to prevent negative impact of biocides on the aquatic environment by making obligatory the use of the most efficient application technique available,
5. making obligatory the establishment of buffer zones for the protection of aquatic non-target organisms,
6. prohibiting applications with a high risk of losses into surface water or sewage systems,
7. In protected areas: making obligatory an impact assessment weighing the costs and benefits for human health and the environment of the application of biocidal products.

Problem description and justification of measure

As acknowledged by Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides (recital 15), the aquatic environment is especially sensitive to pesticides and it is therefore necessary to pay particular attention to avoiding pollution of surface water and groundwater. The negative impact of active substances on the aquatic environment will be the same no matter whether their origin is the use of biocidal products or of plant protection products. The same is true for the use of biocides within or causing emissions to sensitive areas like Natura 2000 sites, nature conservation areas or other (recital 16). Provisions at EU-level are in place in order to prevent plant protection products from causing negative impact on these areas. Legislation on biocides should catch up here especially since some biocidal products, in contrast to plant protection products, are used directly in the natural environment, not only in agricultural, forested or horticultural used land. Being aware that these practices have been established before legislation on biocides have come into force, their maintenance should be critically reviewed in the light of the actual authorization scheme but also with regard to general rules for use. Biocidal products

¹ e.g. as defined in Directive 2000/60/EC Water Framework Directive, in Directive 79/409/EEC on the conservation of wild birds and 92/43/EEC on the conservation of natural habitats and of wild fauna and flora
Concerned are mainly insecticides (PT 18) for the large-scale control of mosquitoes or oak processory moths. Also antifouling products (PT 21) will foreseeable enter water bodies, although there is no direct application to water, but emissions to water during ongoing use of treated ships, boats or water constructions. Similarly to the regulation of plant protection products, the outdoor use of biocides should be prohibited or restricted to the absolute minimum necessary in the sensitive areas. Where possible, biocidal use in sensitive areas should be prohibited completely, e.g. private use of antifouling agents in freshwater nature protection sites or the use of insecticides in conservation areas.

But natural environment areas are not the only sensitive areas to be considered. Areas used by the general public or private homes might be regarded as sensitive areas as well. However, this has not been elaborated yet.

### Examples from other laws and provisions

**Framework Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides**

The Directive requires in Article 11 appropriate measures to protect the aquatic environment and drinking water, such as the establishment of buffer and safeguard zones to avoid pollution of surface water and groundwater as well as the use of low risk pesticides and biological control measures. Preference should also be given to efficient application techniques.

The Directive refers in Article 12 to high risk areas of environmental and human exposure like sensitive areas, e.g. conservation areas (protected areas as defined in Directive 2000/60/EC establishing a framework for Community action in the field of water policy or other areas in accordance with the Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora and Directive 79/409/EEC on the conservation of wild birds) as well as public places or places used by vulnerable groups such as parks, school grounds and children's playgrounds. In these areas the use of plant protection products should be minimised or prohibited.

**National regulation of the use of antifouling products:**

Currently there are several regulations in Germany restricting the use of antifouling products. Examples are:

a) Delegated act concerning shipping on the Lake Constance: According to the delegated act underwater paints of boats and waterway facilities have to be in a way that they do not have adverse effects on the water. There are recommendations concerning the use or avoidance of concrete active substances by the Lake Constance Foundation.

b) Delegated act concerning the Wakenitz: According to the delegated act vessels having an underwater paint with a toxic effect are not allowed to be used on the Wakenitz and the Ratzeburger lakes.

c) Delegated act on recreation of the Ruhrverband in force for several water reservoirs: According to the delegated act underwater paints of vessels are not allowed to contain substances hazardous to water.

---

2 Verordnung über die Schifffahrt auf dem Bodensee vom 25. November 2013
4 Freizeitordnung des Ruhrverbands für die Hennetalsperre, Sorpetalsperre, Möhnetalsperre, Biggetalsperre und Listertalsperre vom 01. Januar 2014
Information and awareness raising

The participants were asked the following questions:

- Which user groups do need specific information and how can they be reached?
- Are you aware of information or awareness raising programs (e.g. specific eco-labelling) for the sustainable use of biocides or alternatives?
- What would you modify generally on existing labels for biocidal products?
- For which PTs do you think should respective measures be elaborated?

General comments
There was a fruitful discussion in the World Café on options for providing information and on establishing awareness raising programs for the general public.

Detailed discussion points
When looking for specific information to be provided to users the participants agreed that the different user groups (professional, specialized professional, consumer, partly also industrial user) should be specifically addressed. Distributors and retailers have been named as an additional group for which specific information should be provided. A particular gap on information and risk awareness was identified for consumer, who therefore should be the main target group for awareness raising programs. Information on alternatives should be provided for all user groups. However, for many professional and industrial applications of biocides much information on correct use is already available.

There already exist several information and awareness raising programs on a national level for supporting sustainable use of biocides and alternatives. In Denmark this is applied since 10 years. Germany maintains a web portal to promote alternatives and sustainable use of biocides. Eco-labelling of biocide free alternatives could be an option for promoting sustainable use. Another option consists in promotion of low-risk biocidal products. However, industry stated that the current definition of low-risk biocidal products should be changed before this option becomes effective.

There also exist several initiatives of companies to communicate product ingredients, including active substances (green list initiatives).

It was criticized that there still exist internet sources which promote non-authorised and obsolete biocides. Enforcement and market control can help to inform user that such uses are not allowed. For pest controller it was demanded that awareness programs should include prevention, product selection and resistance management.

Considering the optimization of product labels it was suggested that the label should be problem orientated and any confusing statements and pictures should be avoided. Clear information about target organism and the application time for the product being effective should be provided. One suggestion was that the warning claims should not only be mandatory for advertisement but also for the product label. The label should also assign that the product is authorised according to the high standards of the BPR. In some MS such as Denmark the product label is authorised together with the biocidal products. The use of barcodes for smartphones or similar approaches could support user to get access to more detailed information. This may also help overloading of labels with information.
The question for which PTs respective measures should be elaborated was controversially discussed. The PTs being in focus were wood preservatives (including storage of treated wood) and pest control agents (insecticides rodenticides) next to antifouling agents and outdoor application of film and masonry preservatives. One suggestion was that priority should be given to outdoor uses and substances which are not readily biodegradable. On the other hand it was mentioned that also indoor applications e.g. from the use of disinfectants may result in emissions to the sewage treatment plants and the environment. Other criteria could be consumer products for the general public such as repellents, whose residues are detected in environmental media, or treated articles with a bactericidal label claim. It is expected that the product registration process will lead to a harmonisation of labelling requirements reflecting the results of the risk assessment and efficacy.

Summarising the participants could not agree on the most relevant PTs and no PT was excluded in principle. Thus a systematic evaluation of relevant PTs should be performed.
Prohibition or restriction of certain modes of application

The participants were asked the following questions:

- Which modes of application do you think should be prohibited or restricted generally? Is it relevant for all PTs?
- Should the spray application via air (e.g., helicopter) be prohibited in general or should it be subject to the standard risk assessment?
- Do you already know of prohibitions or restrictions implemented in national law?

General comments

The discussion focused mainly on the aerial application and its benefits and risks. With increasing time of the discussion it was realized that several prohibitions and restrictions already exist across Europe on national level before product authorization started.

Detailed discussion points

Required prohibitions and restrictions were explicitly mentioned by the participants for the subsequent PTs: every day consumer products (PT1, 2); rodenticides (PT 14) for private use (limited use to bait boxes), fields of cereal crops, and areas of public use; Antifouling (PT 21) for private use in the area of lakes and Baltic Sea (referred to Finland and lake Konstanz as examples of the previous lecture); preservatives and coatings containing biocides (PT 7, PT 10) for private use. For example, spraying of paints by non-professional users might cause higher exposure to the environment than other application methods like brushing.

A lively discussion was about whether aerial applications should be subject of the regular risk assessment under BPR and are therefore probably allowed in specific areas in general, or whether there should be a general prohibition, because the derived risk is not foreseeable. Some participants followed the arguments that a general prohibition is needed and only justified exceptions (see below: case-by-case) might be authorized. In contrast, it was stressed, the product authorization should be an open process and prohibitions at an early stage of the evaluation avoided. In the scope of the product authorization e.g. standards for proper spray application (e.g. to reduce spray drift), or managing the meteorological conditions are submitted. A balanced risk-benefit analysis might lead to general approval. Therefore, general prohibitions without specific risk assessment, however, were obviously rejected by few producers as well as some regulators (e.g., for antifouling).

However, this argumentation overlooked already existing national bans on aerial application due to unacceptable risk, as highlighted by participants, e.g. for Belgium, the Netherlands and Italy. From the perspective of most authorities/regulators and NGO present, these prohibitions match well with the precautionary principle, fits to toxic properties of certain biocides and the unsafe mode of application.

There was a large consensus that private users should not spray biocidal products (particularly not indoors). Moreover, all participants agreed that PT 18 products sprayed aerially by professional users require a case-by-case decision (e.g. case of mosquitos in river Rhine area). Public areas should always be treated without using PT 18 biocides (by alternative treatments) and restrictions are reasonable. Similar spray restrictions for PT 8 are addressed in the discussion additionally. It was pointed out the need to distinguish between professional and private use.

Finally, a European-wide overview of national bans and restrictions already existing was requested. This survey combined with a review on acceptance need to be established.
Which further topics concerning a sustainable use of biocides do you think should be considered?

**General comments**
At first, it was questioned from individuals whether there is really a need for further regulation on the sustainable use of biocides at all, especially with regard to the problems that already exist during the product authorization. Secondly, it was mentioned that the discussion on the sustainable use should not be discussed isolated from the benefits that are gained from the use of biocides at all.

**Detailed discussion points**
As discussed in the plenum, it was consented that further training of the users of biocidal products is necessary. However, it should be checked carefully for which uses and/or product types the training is needed and whether it should be mandatory or voluntary. It was also mentioned that a mutual qualification standard of professional users could be helpful, since the requirements on the educational level of professional users might be different in the member states.

Another discussion was held about information and awareness raising, which might be a big opportunity to reduce the use of biocides and consequently minimize its emission into the environment. For example, maintaining higher standards of hygiene in the raw materials could reduce the use of biocides, e.g. preservatives in paint formulations. In general, there was a broad agreement, that disregarding instructions by users is a serious problem and that a better risk communication (e.g. disinfectants, repellents) towards the users is required.

Furthermore, environmental monitoring might be an opportunity to identify hotspots of environmental exposure and therefore support the implementation of a sustainable use of biocides. However, substance properties like water solubility, biodegradability and the intended uses should be considered for prioritisation. Besides, it should also be distinguished between the exposure of individuals (relevant for human health) and the exposure of large areas (relevant for the environment).

Moreover, efficacy testing is important for implementing a sustainable use of biocides. The improvement of the available guidelines might reduce the application of inefficient (or unnecessary) products.

It was also mentioned that a discussion on the potential contribution of a comparative assessment of biocides was missing in the workshop. In this context one question was how comparative assessment can be used to promote a sustainable use of biocides by replacing products on the market.

Finally it was suggested that borderline decisions between different regulations, e.g. medicinal products vs. disinfectants under biocidal regulation, might influence the implementation of sustainability in the biocide utilization.
11 Presentations

Loss rates of urban biocides can exceed those of agricultural pesticides; Alfredo Alder, EAWAG (CH)

Impact of biocides on the drinking water supply; Claudia Castell-Exner and Frank Sacher, DVGW-TZW

The view of the EU Commission and ongoing projects; Christophe Kusendila, EU Commission

Introduction into the discussion of policy proposals; Stefan Gartiser, Hydrotox GmbH and Ingrid Nöh, UBA

Further training and education/ Information to reduce Biocides in Façade Coatings; Michael Burkhardt, HSR University of Applied Sciences Rapperswil (CH)

Best practice and alternative control measures; Stefanie Wieck, UBA

The relationship between efficacy and sustainability; Ulrike Frank, KEMI (SE)

Guideline CEN 404 on good practice in professional application of biocides in civil areas; Maristella Rubbiani, L'Istituto Superiore di Sanità (IT)

Requirements for sales; Beatrice Schwarz-Schulz, UBA

Restrictions on sales of biocides in Belgium; Herlinde Vanhoutte, FPS Health, Food chain safety and Environment (BE)

Equipment for the application of biocides; Stefan Gartiser, Hydrotox GmbH

Testing of plant protection equipment; Dirk Rautmann, Institute for Application Techniques in Plant Protection, JKI

Reduction of biocides use in sensitive areas; Michael Burkhardt, HSR University of Applied Sciences Rapperswil (CH)

Finnish regulation of anti-foulings; Jaana Pasanen, Tukes (FI)

Summary and conclusions; Petra Greiner, Ingrid Nöh, Stefanie Wieck, UBA
Loss rates of urban biocides can exceed those of agricultural pesticides

Irene K Wittmer, Alfredo C Alder

Hans-Peter Bader, Ruth Scheidegger, Heinz Singer, Christian Stamm

alfredo.alder@eawag.ch

Eawag: Swiss Federal Institute of Aquatic Science and Technology
Introduction

Usage of pesticide and biocide
Introduction

Input pathways to surface waters
Introduction

Agriculture: ~1300 t/a

Urban: ~2000 t/a
A comprehensive comparison of losses from urban versus the losses from agricultural areas was lacking!
Research questions

- What is the relevance of urban versus agricultural land use for biocide and pesticide occurrence?

- How relevant are rain-driven losses compared to constant inputs via WWTPs?

- What is the role of the urban drainage system?
Field study 2007 - in the Greifensee catchment

Catchment area: 25 km$^2$
Inhabitants: 12'000
## Selected compounds

<table>
<thead>
<tr>
<th>Pesticides (agriculture)</th>
<th>Biocides (urban)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbendazim</td>
<td>Carbendazim</td>
</tr>
<tr>
<td>Diazinon</td>
<td>Diazinon</td>
</tr>
<tr>
<td>Terbuthylazine</td>
<td>Terbuthylazine</td>
</tr>
<tr>
<td>Isoproturon *</td>
<td>Isoproturon *</td>
</tr>
<tr>
<td>Mecoprop</td>
<td>Mecoprop</td>
</tr>
<tr>
<td>Atrazine *</td>
<td>Isothiazolinones</td>
</tr>
<tr>
<td>Sulcotrion</td>
<td>IPBC</td>
</tr>
<tr>
<td>Mesotrion</td>
<td>Irgarol *</td>
</tr>
<tr>
<td><strong>Selected samples of:</strong></td>
<td></td>
</tr>
<tr>
<td>Glyphosate *</td>
<td></td>
</tr>
</tbody>
</table>

* plus transformation products
Consumption

in the study catchment during the measurement period

Agricultural: 1.6 - 108 kg
Urban: 4.6 - 73 kg

Survey by G. Popow and Mahler & Moschet
Seasonal concentration patterns

Agricultural pesticides show a seasonal occurrence
Biocides occur throughout the year

Wittmer et al., 2010. Water Res. 44, 2850-2862
Concentration dynamics

The discharge dynamic of the two catchments varies.

Wittmer et al., 2010. Water Res. 44, 2850-2862
Concentration dynamics

The discharge dynamic of the two catchments varies

Atrazine concentrations usually increase with increasing discharge

Wittmer et al., 2010. Wat Research. 44, 2850-2862
The **discharge dynamic** of the two catchments varies

**Atrazine** - concentrations usually increase with increasing discharge

**Mecoprop** – concentrations depend on the activity of the urban drainage system (CSO)

Wittmer et al., 2010. *Wat Research. 44, 2850-2862*
Catchments show distinct load patterns depending on the land use!  

Wittmer et al., 2010. Sci Total Environ. 409, 920-932
Catchments show distinct load patterns depending on the land use!

Wittmer et al., 2010. Sci Total Environ. 409, 920-932
Cumulative loads

Diclofenac (pharmaceutical)

Diuron (biocide)

Terbuthylazin (agriculture)

Carbendazim (biocide)

Wittmer et al., 2010. Sci Total Environ. 409, 920-932
Results facades

Biggest unknowns:

a) What is the proportion of the rainfall that reaches the facade and is turned into runoff?

b) Decay in the facade?

=> wash-off occurs over several months or years

Burkhart et al., 2009. Umweltwiss Schadst Forsch 21, 36-47
Wittmer et al., 2011. Water Res. 45, 3453-3460
Overview exposure in the catchment

<table>
<thead>
<tr>
<th></th>
<th>urban - constant</th>
<th>urban - seasonal</th>
<th>agri. - seasonal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terbuthylazine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atrazine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isoproturon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mecoprop</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diazinon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diuron</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbendazime</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terbutryn</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irgarol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPBC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isothiazolinones</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- **important agri.**
- **less important agri.**
- **important urban**
- **less important urban**
- **nothing detected**
Biocides in five Swiss rivers (March - July 2012)

<table>
<thead>
<tr>
<th>Compounds</th>
<th>Use</th>
<th>Frequency (&gt; 5 ng/L)</th>
<th>Max. conc. [ng/L]</th>
<th>Number of sites</th>
<th>Number &gt; CQC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terbutylazine</td>
<td>P, BX</td>
<td>62%</td>
<td>630</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Isoproturon</td>
<td>P, B</td>
<td>67%</td>
<td>350</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Diuron</td>
<td>P, B</td>
<td>60%</td>
<td>52</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>CMI</td>
<td>B</td>
<td>9%</td>
<td>510</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Mecoprop</td>
<td>P</td>
<td>98%</td>
<td>470</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>DEET</td>
<td>B</td>
<td>87%</td>
<td>520</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Diazinon</td>
<td>PX, PX</td>
<td>47%</td>
<td>43</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Thiacloprid</td>
<td>P, B</td>
<td>22%</td>
<td>65</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Fipronil</td>
<td>P, B</td>
<td>2%</td>
<td>14</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Carbendazim</td>
<td>P, B</td>
<td>69%</td>
<td>65</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

P: pesticide, B: biocide, PX, BX: today not allowed
CQC: chronic quality criteria

Wittmer et al. (2014), AQUA & GAS, (3) 32-43.
Über 100 Pestizide in Fliessgewässern
Conclusions

- Catchments of mixed land use:
  → biocide and pesticide inputs into SW: urban ≈ agricultural areas
  → agricultural as well as urban systems have to be considered!

- sources and usage
  *Urban*: - Diuron, Terbutryn → through the year from facades
  - Carbendazim → from facades and WWTP
  - Mecoprop → through the year from bitumen roofs/ garden
  - IPBC, BIT → transformation of parent compound
  *Agriculture*: e.g. Isoproturon → agricultural application period

- Concentration dynamics and occurrence of urban and agricultural used compounds differ in space and in time.
  → important for monitoring and sampling concepts!

- In the 2012 study, 2 biocides (CMI and DEET), 20 mixed-use biocides/pesticides and 82 pesticides were quantified in 5 Swiss rivers.
Thank you for listening and….

…many thanks to

- Hans Wunderli (soil physics ETHZ) and the workshop at Eawag for their technical support.
- The two communes Gossau and Grüningen.
- Mr. Popow for the survey of agricultural pesticide use and
- Mr. Moschet and Mrs. Mahler for the survey of pesticide use in private gardens.
IMPACT OF BIOCIDES ON DRINKING WATER SUPPLY

Biocides Workshop, Berlin 31.03. - 01.04.2014
Frank Sacher and Claudia Castell-Exner
BIOCIDES

bios = life
caedere = to kill

Biocidal products means
- any substance or mixture,
- in the form in which it is supplied to the user,
- consisting of, containing or generating one or more active substances,
- with the intention of destroying, deterring, rendering harmless, preventing the action of,
- or otherwise exerting a controlling effect on,
- any harmful organism
- by any means other than mere physical or mechanical action

Regulation 528/2012 (Biocides regulation)
## Annex 2, part 1

<table>
<thead>
<tr>
<th>10</th>
<th>Pflanzenschutzmittel-Wirkstoffe und Biozidprodukt-Wirkstoffe</th>
<th>0,00010</th>
</tr>
</thead>
</table>

- Pflanzenschutzmittel-Wirkstoffe und Biozidprodukt-Wirkstoffe bedeuten: organische Insektizide, organische Herbizide, organische Fungizide, organische Nematizide, organische Akarizide, organische Algizide, organische Rodentizide, organische Schleimbekämpfungsmittel, verwandte Produkte (u. a. Wachstumsregulatoren) und die relevanten Metaboliten, Abbau- und Reaktionsprodukte.
- Es brauchen nur solche Pflanzenschutzmittel-Wirkstoffe und Biozidprodukt-Wirkstoffe überwacht zu werden, deren Vorhandensein im betreffenden Wassereinzugsgebiet wahrscheinlich ist.
- Der Grenzwert gilt jeweils für die einzelnen Pflanzenschutzmittel-Wirkstoffe und Biozidprodukt-Wirkstoffe.
- Für Aldrin, Dieldrin, Heptachlor und Heptachlorepoxid gilt der Grenzwert von 0,000030 mg/l

| 11 | Pflanzenschutzmittel-Wirkstoffe und Biozidprodukt-Wirkstoffe insgesamt | 0,00050 |

Der Parameter bezeichnet die Summe der bei dem Kontrollverfahren nachgewiesenen und mengenmäßig bestimmten einzelnen Pflanzenschutzmittel-Wirkstoffe und Biozidprodukt-Wirkstoffe. Siehe Anmerkung 1
Giftige Biozide belasten

Datum: 01.02.2013

Von: Klaus Brandt

Überarbeitung: Westdeutsche Allgemeine Zeitungsverlagsgesellschaft E. Brook & F. Funke GmbH u. Co. KG

Giftige Biozide belasten

Von Autor: Klaus Brandt

Essen.


Beeinträchtigen die Biozide das menschliche Leben, und irgendwann für dörfliche Menschen? Für das Lunu besteht „kein konkreter Anhalt zu erennen“. Die Entwicklung sei „weiterhin intensiv überwacht“.

Kommentar Seite 1

Bericht Rhein-Ruhr

Trinkwasser soll genauer geprüft werden


Bessere Biozid-Tests für Ruhr-Trinkwasser gefordert

Chef der Trinkwasser-Kommission sieht keine Grundlage für Entwarnung. Er sagt: Es muss nachgebessert werden

Von Autor: Klaus Brandt

Fahrzeug:

Eine öffentliche Erklärung, mit der die Arbeit der Trinkwasser-Kommission der Ruhr (AWW) die schädlichen Biozide im Wasser nicht zu beherrschen, droht sie muten in den falschen Wegen zu zielen.


Ebenso unterschiedlich sind die Untersuchungsdichten. Die Stadtwerke Arnsberg und Brein überprüfen über 30 Wirkstoffe im Trinkwasser, der Größtwasserversorger der größten Stadt in Deutschland, überprüft über 60 Wirkstoffe, der Zweifühligkeit zwischen dem "Mittelstufen"- und "Mittelstufe"-Kriterium.

RELEASE OF BIOCIDES INTO WATER (1)

- Cooling towers
- Deposition
- Surface water
- Sedimentation
- Volatility
- Sewage sludge
- Local emissions
- Liquid manure
- Run-off
- Waste water treatment plant
- Stable
- Dilution
- Sediment
- Soil
- Groundwater
- Leaching
Ships and boats

- TBT to be found in waters, accumulates in sediments, endocrine disrupting effects (few ng/l)
- New substances in antifouling agents: tolylfluanid, irgarol (highly persistent, toxic against algae, endocrine disrupters)

Cooling towers:

- Oxidising biocides → DBP (trihalomethanes, AOX, bromate)
- Non-oxidising biocides (isothiazolinones, quarternary ammonium compounds)

Rainwater overflows

- Copper from roofs, gutters and facades
- Wood preservatives
- Film, masonry preservatives
- In-can preservatives
OCCURRENCE OF PESTICIDES/BIOCIDES IN DRINKING WATER RESOURCES (1)

DVGW research project W 1/02/05
(100% = 477 water utilities)

295 (62%)
182 (38%)

measured concentration < LOQ  measured concentration > LOQ
OCCURRENCE OF PESTICIDES/BIOCIDES IN DRINKING WATER RESOURCES (3)

Sampling Date

11/6/2012
12/7/2012
10/8/2012
5/9/2012
4/10/2012
30/10/2012
29/11/2012
21/12/2012
24/1/2013
21/2/2013
21/3/2013
18/4/2013

Concentration in µg/L

0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6

Diuron
Isoproturon
Carbendazim
Terbutryn

Sampling Date

11/6/2012
12/7/2012
10/8/2012
5/9/2012
4/10/2012
30/10/2012
29/11/2012
21/12/2012
24/1/2013
21/2/2013
21/3/2013
18/4/2013

Concentration in µg/L

0.0
0.1
0.2
0.3
0.4
1.2
1.4
1.6

Diuron
Isoproturon
Carbendazim
Terbutryn

Kraichbach
Leimbach

TOLYLFLUANID

![Chemical structure of tolylfluanid](image)

**Tolylfluanid**

**DMST**

**NDMA**

**N,N-dimethylsulfamide (DMSA)**

**N,N-dimethylsulfamide (DMSA)**

- **NDMA is carcinogenic!**

**Water treatment**

- **Ozonation**

**Degradation in soil**

**NDMA**

- **Water treatment**

- **Degradation in soil**

**NDMA is carcinogenic!**

---

DVGW

TZW
PRIORIZATION OF BIOCIDES FROM DRINKING WATER SUPPLIER’S PERSPECTIVE

DVGW research project W 3/01/09

- Inventory of biocidal agents authorized or notified by December 2011
- Prioritization from a drinking water supplier‘s perspective
- Establishing a priority list
- Recommendations for drinking water suppliers

www.tzw.de
PROCEDURE AND RESULTS

249
- Active substances to be examined under the review programme (Status 31.12.2011)

158
- Chemically unambiguously defined substances possibly relevant for drinking water

142
- Substances likely to be released into the aquatic environment

95
- High production volume chemicals

53
- Water soluble and mobile substances

24
- Not readily biodegradable substances
- Substances potentially relevant for drinking water production

DVGW research project W 3/01/09
## Biozidal Agents Potentially Relevant for Drinking Water

<table>
<thead>
<tr>
<th>Biozidal Agent</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexylhydroxydiazene 1-oxide, potassium salt (K-HDO)</td>
<td>Chloralose</td>
</tr>
<tr>
<td>Biphenyl-2-ol</td>
<td>Isoproturon</td>
</tr>
<tr>
<td>Sodium dimethylarsinate</td>
<td>Azamethiphos</td>
</tr>
<tr>
<td><strong>Thiabendazole</strong></td>
<td>Ethyl N-acetyl-N-butyl-beta-alaninate</td>
</tr>
<tr>
<td>Diuron</td>
<td>Tebuconazole</td>
</tr>
<tr>
<td>Cyanamide</td>
<td>2-Butylbenzo[d]isothiazol-3-one (BBIT)</td>
</tr>
<tr>
<td>Methyl isothiocyanate (MITC, hydrolysis product of <strong>Dazomet</strong>)</td>
<td>Imidacloprid</td>
</tr>
<tr>
<td>Tolyfluanid</td>
<td>Thiamethoxam</td>
</tr>
<tr>
<td>Dichlofluanid</td>
<td>Imiprothrin</td>
</tr>
<tr>
<td>2-Methyl-2H-isothiazol-3-one (MIT)</td>
<td>Clothianidin</td>
</tr>
<tr>
<td>Coumatetralyl</td>
<td>Cyproconazole</td>
</tr>
<tr>
<td>Carbendazim</td>
<td>Thiacloprid</td>
</tr>
</tbody>
</table>
RECOMMENDATIONS

- Tracking of the authorization process
- Improvement of the data base
  - Production or sales volumes (national, regional scale)
  - Physical-chemical properties (e.g. biodegradability under environmental conditions)
- Development of analytical methods for priority biocidal agents at environmental concentrations
- Monitoring of priority biocidal agents in the aquatic environment, especially in drinking water resources
- Gathering information about the behavior of the priority biocidal agents during drinking water treatment processes (measurements in waterworks, lab-scale experiments)
OUTLOOK AND NEED FOR ACTION

1. Regulatory aspects:
   - Establishing a data exchange between biocide authorisation and environmental monitoring
   - Implementing measures in water resources protection in compliance with the objectives of the WFD
   - Development of environmental quality standards (EQS) for biocides in surface waters
   - Establishing a new eco-labelling scheme for biocides
   - Implementing a link between CE-marking of biocidal products and information about environmental and human health risks
   - Developing a strategy and guidance for the sustainable use of biocides
OUTLOOK AND NEED FOR ACTION

2. Research and development aspects:
   - Improving the data base of emissions and immissions of biocides
   - Research on the formation of metabolites
   - Development of risk assessment methods regarding the cumulative and combined effects of biocides and their metabolites
   - Developing methods for the analysis of biocides and their metabolites in water
Thank you for your attention!

Dr. Claudia Castell-Exner  
DVGW Deutscher Verein des Gas- und Wasserfaches e.V.  
Josef-Wirmer-Str. 1-3 / 53123 Bonn  
castell@dvgw.de

Dr. Frank Sacher  
TZW: DVGW-Technologiezentrum Wasser  
Karlsruher Straße 84 / 76139 Karlsruhe  
sacher@tzw.de
Sustainable use of Biocides
European Commission views and study

Christophe Kusendila
European Commission
DG Environment, Unit A.3
Summary

- Background
- Definition
- Commission project – timeline
- Commission project – scope
- Commission project – actions
- Outcome
- Final consideration
Background

*In the Regulation (EU) No 528/2012,*

**Article 18**

Measures geared to the sustainable use of biocidal products

By 18 July 2015 the Commission shall, on the basis of experience gained with the application of this Regulation, submit to the European Parliament and the Council a report on how this Regulation is contributing to the sustainable use of biocidal products, including on the need to introduce additional measures, in particular for professional users, to reduce the risks posed to human health, animal health and the environment by biocidal products. That report shall, inter alia, examine:
Background

Update on experience gained with the Regulation,

- Experience from Industry
- Experience from Member State stakeholders
Background

- On the basis of the report, and if appropriate, Commission to submit proposal for adoption.
- If there is a need demonstrated, development of for example guidance documents or other specific actions.
Definition

What is sustainable use?

- Several possible definitions

- Reference to previous DG ENV study:
  'Study towards the development and dissemination of best practice on the sustainable use of biocidal products' (2010)
“Sustainable use” is a broader concept that considers the use of biocides in general, along with the overall risks posed by all biocidal product use, and aims at the overall least impact on human health and the environment. It considers the three pillars of sustainability (economic, social, environmental) at the various points when decisions are taken concerning how to achieve the desired objective of preventing or controlling the growth of harmful organisms or of materials preservation, etc. Thus it goes beyond acceptable risk to seek any additional opportunities for further risk reductions that can be achieved while ensuring effective action against harmful organisms. This provides a further margin for ensuring least possible impacts on health and environment; it may also lead to cost savings, thereby addressing the economic pillar of sustainable use as well.
Definition

- Broader concept considering the use in general,
- taking into account overall risk,
- aiming to minimal overall impact on health and environment.
- Assesses economic, social and environmental impact of biocidal use.
- Seeks for opportunities to lower risk and at the same time ensuring effectiveness.
Project - timeline

*Set up of a study project in collaboration with external contractor*

- Restricted call for tender in October 2013
- Evaluation of offers in November 2013
- Signature of contract in December 2013
- Inception meeting in January 2014
- Final report March 2015
Project - Scope

Project "Analysis of measures geared to the sustainable use of biocidal products"

8 well-defined tasks

Scope is partially defined in the Regulation
• Article 18(a) – (e)
Project - Scope

Task 1: Provide an overview of the promotion of best practices as a means of reducing the use of biocidal products to a minimum – Article 18(a)

- Follow-up on previous studies from Commission and MS (DE, BE)
- PT 8, 18 and 19
Project - Scope

**Task 2: Identify whether there is a need for additional measures reducing risks for professional users**

- See Art. 2 of the BPR – BPR does not apply if regulated already by:
  
  Directives 89/391/EEC, 98/24/EC, 2000/54/EC and 2004/37/EC = legislation to ensure safety and health of workers

- Is there a gap?
  
  Generic risk assessment per PT and mapping with control measures

- Start with all PT, narrow down depending outcome

07/04/2014
**Project - Scope**

*Task 3: Investigate and make recommendations for the most effective approaches for monitoring the use of biocidal products – Article 18(b)*

- Aim is harmonisation of the monitoring practices
- Explore possibilities to use IT tool
  e.g. R4BP
Project - Scope

Task 4: Specify the risks posed by the use of biocidal products in specific areas and whether additional measures are required to address those risks – Article 18(d)

- Specific areas such as schools, workplaces, kindergartens, public spaces, geriatric care centres or in the vicinity of surface water or groundwater
- All product types, narrow down to main product groups
Project - Scope

Task 5: Examine the relevance of integrated pest management principles for biocidal products and the role that improved performance of the equipment used for applying biocidal products could play in sustainable use – Article 18(c) and (e)

- Focus on the general principles for IPM set out in Directive 2009/128/EC and previous studies
- Product types 8, 18 and 19
Project - Scope

But, the study goes beyond the objectives of Article 18

Further analysis of the tools that could be used to stimulate innovation and the development of new products to decrease the environmental and human health impact of biocidal products

07/04/2014
Project - Scope

Task 6: Investigate the possibility to attribute an eco-label to biocidal products

- Update of what criteria are needed to meet the requirements laid down in the Eco-label Regulation (EC) No 66/2010
- Compare to what extent the BPR already offers appropriate provisions (cfr Low risk concept)
- If existing Eco-label doesn't fit, development of alternative criteria
Project - Scope

Task 7: Provide an overview of voluntary schemes highlighting the ‘green profile’ of certain biocidal products and their use, and suggest other approaches or tools

- Examples like 'Green list',...
- Development of some case studies
Project - Scope

Task 8: Analyse whether it is appropriate to revise Article 72 of the BPR on advertising.

- Currently, Article 72 prevents companies from making claims that their products have a better environmental and human health profile
- Compare with other chemicals legislation
  - E.g. pesticides, flame retardants, f-gases, ...
Project - actions

In practice

- Literature review and expert knowledge
- Data collection through questionnaires for Member State and Industry stakeholders
- Selected interviews with stakeholders
Outcome

**Outcome:**

- Basis for the Commission report to EP and Council
- Improved advertising and marketing for companies (cfr SMEs)?
- Use of an eco-label, eco-claims?
- Introduction of smart tags (QR)?
- Recommendations regarding use by professionals or in the neighborhood of schools, workplaces etc. ?
- Suggestions for monitoring features in R4BP?
- ...
Final consideration

• We welcome additional thoughts, tools to promote sustainable use!
• We support mechanisms stimulating innovation!

But, thinking about sustainable use already starts at the very beginning,
• when submitting an active substance or product dossier and subsequent evaluation and approval or authorisation!
  • For example, pay attention to secondary poisoning, no tracking powders etc.
Thank you

Contact: ENV-Biocides@ec.europa.eu

or +32 2 295 03 93
Sustainable use of biocides
– Introduction into the discussion of policy proposals

Stefan Gartiser
Hydrotox GmbH, Freiburg

Ingrid Nöh and Stefanie Wieck
German Federal Environment Agency
1. Starting position
2. Use phase of pesticides
   - Thematic strategy on sustainable use
   - Proper use of biocides (BPR)
   - Use phase of PPP/biocides
2. Measures for sustainable use of
   - pesticides
   - biocides
3. Summary of findings
4. Workshop organisation
Starting position

- Biocides are highly potential substances (similar PPPs);
- Also authorized products still pose risks;
- Biocides are directly used in the environment or are transferred to the environment during service life;
- Biocides are found in the environment.

need to:

- keep entry of biocides to the environment as little as possible;
- minimize the use of biocides;
- use preventive and/or non-biocidal measures, where ever appropriate;
- use biocides as efficient as possible;
- use biocides with the smalest risk possible.
Research projects

2008-2011:
Sustainable Use of Biocidal Products – Prospects and Requirements for Transferring Proposals for Plant Protection Products to Biocides

→ Can PPP measures be adapted for biocides?
→ Specific measures for PT 8, 18 and 21
→ http://www.umweltbundesamt.de/sites/default/files/medien/461/publikationen/4261.pdf

2011-2014 (still running):
Reduction of environmental risks from the use of biocides:
Environmental sound use of disinfectants, masonry preservatives and rodenticides

→ Specific measures for PT 2, 3, 7/10 and 14
Considering the use phase of pesticides

EU Thematic Strategy on Sustainable Use of Pesticides (TS)
Objectives:
● Minimise hazards and risks to human health and the environment.
● Integrated pest management and non-chemical alternatives.

Directive 2009/128/EC on sustainable use of pesticides
● Focus on plant protection products (PPP)
● Possibility for extension to biocides is kept open
Biocidal-Products-Regulation (BPR)

REGULATION (EU) No 528/2012

Article 17 (5) BPR

- Biocidal products shall be used in compliance with the terms and conditions of the authorisation … and the labelling and packaging requirements …
- Proper use shall involve the rational application of a combination of physical, biological, chemical or other measures as appropriate, whereby the use of biocidal products is limited to the minimum necessary and appropriate precautionary steps are taken.
- MS shall take necessary measures to provide the public with appropriate information about the benefits and risks associated with biocidal products and ways of minimising their use.

The BPR does not specifically address the use phase of biocides.
The use phase of PPP and biocides

Specific provisions for authorisation

Risk indicators (including statistical data on sales etc.)

Placing on the market

Use phase

Water

Residues

Waste

End-of life stages

Regulation (EC) No 1107/2009 (PPP)


Directive 2006/12/EC on waste

Directive 91/689/EEC on hazardous waste

Regulation 396/2005 (maximum residue level in food/feed)

Directive 98/83/EC on drinking water

Directive 2000/60/EC Water Framework

Reducing negative impacts of biocide use on the environment, Berlin 31st March -1st April 2014

S. Gartiser, I. Nöh
Measures proposed for sustainable use of PPP

National Action Plan

1. Training
2. Requirements for sales
3. Information and awareness raising
4. Inspection of equipment in use
5. Aerial spraying
6. Measures to protect aquatic environment
7. Reduction of use in protected areas
8. Handling, storage, disposal
9. Integrated pest management

Risk management (Indicators)

Reporting

Reducing negative impacts of biocide use on the environment, Berlin 31st March - 1st April 2014

S. Gartiser, I. Nöh
Tools for sustainable use of biocides

National Action Plan

1. Training
2. Requirements for sales
3. Information and awareness raising
4. Inspection of equipment in use
5. Aerial spraying
6. Measures to protect aquatic environment
7. Reduction of use in protected areas
8. Handling, storage, disposal
9. Integrated pest management
10. Service life (preservatives, antifouling agents)
11. Private homes

Mode of application

Direct application to water (e.g. cooling water biocides)

Reporting

Reducing negative impacts of biocide use on the environment, Berlin 31st March - 1st April 2014
S. Gartiser, I. Nöh
Summary of findings

- The BPR, as a product authorisation scheme, does not specifically address the use phase of biocides.
- Measures supporting sustainable use of biocides should be implemented.
- The instruments of Directive 2009/128/EC can be transferred to the biocides sector after some adaptation.
- The service life of articles, the direct application of biocides to water bodies, and the application indoors, e.g. in residential rooms need particular attention.
- Not all measures to support a sustainable use can be addressed in the authorisation step but have to be tackled in other regulatory areas (e.g. Sustainable Use Directive, Best Available Technique, Water Framework Directive, Construction Products Directive).
Summary of findings

• To date no indicators describing the baseline and the progress in sustainable use of biocides are available. Data on sales, consumption, poisoning cases and monitoring of biocides in environmental media are hardly available.

• Biocides should be included in the Regulation on statistics of pesticides (defining the baseline, trends in risk reduction).

• Consideration of biocides in accompanying legislation, e.g.
  - Machinery Directive for pesticide application
  - BREF documents on best available techniques
  - Identification of priority substances within the Water Framework Directive.
  - Maximum residues levels in food and feed.

• Biocides should be better considered in monitoring programmes.
Goals of the workshop

Overall goal:
• Reduce negative impact of biocides on the environment

Workshop should:
• Facilitate the EU-discussion on the sustainable use of biocides
• Identify gaps and
• Get common understanding on needs to reach sustainable use of biocides – whether further legislation is deemed necessary, e.g. for specific product types
• EU-Commission to consider the conclusions of the workshop in their report according to Article 18
The workshop

1. Training
2. Requirements for sales
3. Information and awareness raising
4. Inspection of equipment in use
5. Modes of application
6. Service life
7. Measures to protect aquatic environment
8. Modes of application
9. Measures to protect aquatic environment
10. Reduction of use in protected areas

Today and Tuesday morning:

Choice of 5 important topics for detailed discussion

Structure of each discussion block:

1. Introduction of the background paper (10 min.)
   - Problem description
   - Goals
   - Measures to be discussed
   - Examples from other laws and provisions
2. Example for existing implementations (10 min.)
3. Discussion (40 min.)
The workshop

1. Training
2. Requirements for sales
3. Information and awareness raising
4. Inspection of equipment in use
5. Modes of applications
10. Service life
6. Measures to protect aquatic environment
7. Reduction of use in protected areas
8. Handling, storage, disposal
9. Integrated pest management

Tuesday at noon:

World Café discussion of the topics:

- Information and awareness raising
- Prohibition or restriction of certain modes of application
- Possibility to raise further topics that should be considered under a legislation on sustainable use

You find information on the topics in your folder.
Any questions?

Contact:

**Dr. Stefan Gartiser**
Hydrotox GmbH
Tel.: 0049-761-45512-24
gartiser@hydrotox.de
www.hydrotox.de

**Ingrid Nöh**
German Federal Environment Agency
Tel. 0049-340-2103-3250
Ingrid.noeh@uba.de
www.umweltbundesamt.de
www.biozid.info

*The financial and scientific support by the German Federal Environment Agency is kindly acknowledged. Many thanks to the colleagues Michael Burkhardt (UMTEC), Heike Lüsckow (Ökopol GmbH), Rita Groß (Öko-Institut), and Maura Calliera (OPERA)*
Reducing negative impacts of biocide use on the environment – Towards efficient EU legislation

Further Training and Education

Information to reduce Biocides in Façade Coatings

Michael Burkhardt

HSR University of Applied Sciences Rapperswil, Institute of Environmental and Process Engineering (UMTEC), 8640 Rapperswil, Switzerland

Berlin, 31th March 2014
Outline

- Problem description
- Goals
- Description of measure
- Examples from other laws and provisions
- Specific example: Information to reduce biocides in façade coatings
- Discussion
Problem Description

With lack of education, training, and information best practices cannot be ensured

- **Training** and education of professional users are mandatory in many MS, but limited to certain PTs and users groups
  - Furthermore, professional users are trained, but untrained staff is engaged (e.g. in Germany painters and workers in shipyards)
- **Information** on new practices and risk mitigation measures are requested, but well addressed and clear documents are often lacking
- **Dissemination** of harmonized requirements at European level needed, but a strategy is lacking
- **Advisory service** for users, but in contrast to PPPs those are lacking
Goals

- **Awareness raising** of professional users for human and environmental risks related to biocidal products
- **Concise information** addressed to risk mitigation

Certification of professional user, distributor and consultants within further education and training (PT 2)

<table>
<thead>
<tr>
<th>Efficiency</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>high</td>
<td>Providing information on good practice for use and safe disposal of products containing biocides for customers in DIY sector</td>
</tr>
<tr>
<td>mean</td>
<td>Providing multilingual information or “best practice” for the safe application and disposal for professional users</td>
</tr>
<tr>
<td>low</td>
<td>Notes on the mode of action of biocides used in products (Explanations of A-phrases)</td>
</tr>
<tr>
<td>low</td>
<td>Notes for further information from independent sources (research institute, recognized label, etc.)</td>
</tr>
<tr>
<td>none</td>
<td>Introduction or integration of environmental criteria into decision-making at retail or wholesales</td>
</tr>
<tr>
<td></td>
<td>Promotion of use-based information platforms</td>
</tr>
<tr>
<td></td>
<td>Further suggestions</td>
</tr>
</tbody>
</table>

HSR HOCHSCHULE FÜR TECHNIK RAPPERSWIL SWITZERLAND

UNIVERSITY OF APPLIED SCIENCES

Burkhardt, Berlin, 31th March 2014
Description of Measure

Implementation of obligatory training and certification schemes for professional users / distributors of biocidal products and information on products containing biocides

- **Definition of curricula** in order to obtain latest knowledge on training subjects needed for risk mitigation measures including biocide-free alternatives, preventive measures, programs of best practice etc.
- **General access** to appropriate training continuously updated (different levels) and independent information supporting risk mitigation
- **Certification** of trainings by officially accredited and licensed institutes and persons
- **Establishment of advisory service** to guide professional users
Examples from other Laws and Provisions


- Trainings are offered to professional users of pesticides (e.g. farmers), distributors and advisers
- Certification systems for training will be established including requirements and procedures for granting, renewal and withdrawal latest by 26th November 2015
- It is anticipated to extend the scope to cover biocidal products
Examples from other Laws and Provisions

German Technical Rules for Hazardous Substances (TRGS)

- **Curriculum** for training of pest controllers covers different topics, e.g. safety and occupational health, relevant laws, handling and use of pest control agents, risk mitigation measures, environmental contamination, consultancy of customers, quality assurance
Certificated training to become "pest controller" and "pest control operator" are offered, e.g. in Germany and Austria.

Pest controllers are trained in regular intervals.
- German Committee on Hazardous Substances (Ausschuss für Gefahrstoffe, AGS) defined "regular" by at least two years intervals.

Educational structures exist additionally, e.g. seminars organised by pest control companies, associations etc.

Knowledge transfer on sustainable use during education and training e.g. of pest control workers.

Diagram showing efficiency levels:
Structure

- Problem description
- Goals
- Description of measure
- Examples from other laws and provisions
- Specific example: Information to reduce Biocides in Façade Coatings
- Discussion
Algae and Fungi Growth
Biocides used on Facades (PT 7, PT 10) ¹

- Polymeric paints / renders containing film preservatives
  - 0.02–0.2% per biocide, 8 biocides in use, total amount 200 – 400 t/a (2011, Germany)

- Masonry preservatives (biocidal products)
  - 0.01–0.5% per biocide, 2 biocides in use, total amount 10 – 50 t/a (2011, Germany)

¹ Burkhardt, M., C. Dietschweiler (2013, Draft): Annex III Case study on PT 7/10 Masonry preservatives and façade paints and plaster
Leaching of Biocides from Facades

- 20 events in 100 days analyzed (facade 6-9 months old, height 10.5 m)
- Certain concentration level needed to control growth

![Graph showing leaching of biocides](image)

Initial concentration 1700 mg/m²

Terbutryn (µg/L)

Number of Events (−)

Burkhardt, Berlin, 31th March 2014
Occurrence in Storm Water Systems $^{1,2}$

- Limit value of Terbutryn for surface and groundwater 0.1 µg/L, WFD 0.065 µg/L

---

**Legend**
- brook
- separate sewer system
- 1 sampling site
- ÜB building complex

- 0.3 µg/L (max. 1.8)
- 0.07 µg/L (max. 0.31)
- 470 µg/L (max. 770)
- 0.05 µg/L (max. 0.14)

---

Occurrence in Surface Waters

Concentration (µg/L)

Runoff (m/s)

stream «Furttbach»
(area of Zurich)

Burkhardt, Berlin, 31th March 2014
Need of Reduction Measures

Fassaden-Gifte in Flüssen

Hohe Biozidkonzentrationen bei frisch gestrichenen Häusern

Pollution des eaux
Peinture et crépi aussi responsables

For many years, the use of pesticides on façades has been a common practice in many countries. However, the environmental impact of these substances has become increasingly evident due to their persistence in the aquatic environment. Studies have shown that high concentrations of pesticides can accumulate in water bodies, affecting aquatic life and human health. The use of biozides as alternatives to traditional pesticides has been proposed to reduce the impact on the environment. However, the need for further research to evaluate the effectiveness and safety of these alternatives is highlighted. Additionally, the incorporation of sustainable practices in the construction industry, such as the use of biodegradable materials, can contribute to a reduction in the use of harmful substances.
Questionnaire intended to get ranking of measures promising regarding efficiency (reduction of biocides used) and acceptance (42 send, 25 replies)

**Associations**
- VdL, CEPE
- BV Farbe, SAF

**Industry**
- Producer of active substances and biocidal products
- Formulator of paint, render and masonry preservatives
- Craftsmen (Painter, plasterer)

**Authorities, NGO**
- KEMI, FOEN, PAN
Highest Priority: Strong Need for Information

**Guidance** for sustainable use and disposal as part of professional training, e.g. painters

Providing multilingual information on best practice in safe application and disposal for professional users

**Guidance** for sustainable use and disposal as part of training of non-professionals

**Education** in sustainable use of paints and renders containing film preservatives for architects
Leaflets supported by UBA

Five leaflets and background information with focus on reduction of biocides used on facades (September 2013 to March 2014)

- Working group prepared well addressed documents
  - Heinrich Bartholemy, BV Farbe
  - Frank Brotzel, Akzo Nobel
  - Michael Burkhardt, HSR
  - Folke Dettling, UBA
  - Helge Kramberger-Kaplan, RMI
  - Silke Müller-Knoche, UBA
  - Susanne Smolka, PAN

- Leaflets drafted within short time (outstanding example of pragmatism)
- Feedback from different stakeholders (architectures, BfR, BAuA etc.)
- Layout and pictograms provided by UBA
Independent Facts for Different Stakeholders

**Markblatt 1: Entscheidungshilfe des Biozideinsatzes**

**Allgemeine Informationen**

Algen- und Pilzwehren aus der Fassade
An Gebäudeoberflächen können Algen- und Pilzwehren entstehen. Um Algen- und Pilzwehren zu verhindern, ist eine saubere und hygienische Reinigung der Oberfläche von Bedeutung. Die Auswahl des geeigneten Produkts richtet sich auf die Art der Oberfläche und die Art der Schädlinge, die bekämpft werden sollen.

**Was sind Algen?**

Algen sind eine Gruppe von Pflanzen, die in Wasser lebend und in der Luft trocken sind. Sie sind eine wichtige Quelle von Sauerstoff und können auch als Nahrungsmittel dienen.

**Was sind Pilze?**

Pilze sind Mikroorganismen, die in der Luft und in der Erde leben können. Sie können auf Lebensmittel, Möbel und anderen Gegenständen wachsen und können dadurch Schäden anrichten.

**Markblatt 2: Entscheidungshilfe des Biozideinsatzes**

**Fassadenschutz mit der Pluva-Friese**

Die Pluva-Friese ist ein Algen- und Pilzschutzmittel, das effektiv gegen Algen- und Pilzwehren eingesetzt werden kann. Es ist besonders geeignet für Fassaden, die an Feuchtigkeit und Wärme ausgesetzt sind.

**Markblatt 3: Entscheidungshilfe des Biozideinsatzes**

**Auswahl und Verwendung von Produkten**

Algen- und Pilzwehren sind oft ein Problem für Fassadenbauwerke. Die Auswahl des richtigen Produkts ist wichtig, um die Schäden zu verhindern. Die Pluva-Friese ist eine gute Lösung für Fassaden, die an Feuchtigkeit und Wärme ausgesetzt sind.

**Markblatt 4: Entscheidungshilfe des Biozideinsatzes**

**Sicherer Umgang mit biozidhaltigen Produkten**


**Markblatt 5: Entscheidungshilfe des Biozideinsatzes**

**Informationen für Heimeinwirker**

Die Pluva-Friese ist für Heimeinwirker geeignet. Sie kann einfach und sicher eingesetzt werden. Die Auswahl des richtigen Produkts ist wichtig, um die Schäden zu verhindern. Die Pluva-Friese ist ein sicheres Produkt, das effektiv Algen- und Pilzwehren bekämpft.
Multilingual Information using Pictograms

- Use of paints, renders and masonry preservatives

- Cleaning and disposal of waste
Needs for a Mitigation Strategy

Successful training and information needs strong collaboration of different stakeholders

- Key-element of sustainable use and disposal of biocidal products and products containing biocides, e.g. renders, paints etc.
- Dissemination strategy needed (e.g., www.biozid.info, www.lackindustrie.de)
Acknowledgment

Partner
- Hydrotox GmbH, Freiburg i/Br.
  - Stefan Gartiser, etc.
- Öko-Institut, Freiburg i/Br.
  - Rita Gross

Funding (FKZ 3711 63 410)
- German Federal Environment Agency (UBA)
  - Stefanie Wieck, Silke Müller-Knoche, Ingrid Nöh etc.
Thank you for your attention!

Contact: michael.burkhardt@hsr.ch
Discussion

Questions

1. Do you agree with the goals (awareness raising and concise information)?

2. For which PTs do you think should respective measures be elaborated?

3. Do you see further problems with the training or education that are not solved under the authorisation procedure? (biocidal products and products containing biocides, e.g. paints and renders)

4. Do you know national measures to solve the problems and could serve as an example?
Discussion

1. Do you agree with the goals?

- **Awareness raising** of professional users for human and environmental risks arising from biocidal products
- **Concise information** addressed to risk mitigation
2. For which PTs do you think should respective measures be elaborated?

Implementation of obligatory training and certification schemes for professional users / distributors of biocidal products and information on products containing biocides

- **Definition of curricula** in order to obtain latest knowledge on training subjects needed for risk mitigation measures including biocide-free alternatives, preventive measures, programs of best practice etc.

- **General access** to appropriate training continuously updated (different levels) and independent information supporting risk mitigation

- **Certification** of trainings by officially accredited and licensed institutes and persons

- **Establishment of advisory service** to guide professional users
Discussion

3. Do you see further problems with the training or education that are not solved under the authorisation procedure? (biocidal products and products containing biocides, e.g. paints and renders)

Without education and training, best practices cannot be ensured

- **Training** mandatory for numerous PTs and professional users, but only for few PTs and users groups in certain MS
  - Professional users are trained, but untrained staff is engaged (e.g. in Germany painters and workers in shipyards)

- **Information** on new practices and risk mitigation measures are requested, but well addressed and clear documents are often lacking

- **Dissemination** of harmonized requirements at European level needed, but a strategy is lacking

- **Advisory service** for users, but in contrast to PPPs those are lacking
Discussion

4. Do you know national measures to solve the problems and could serve as an example?

- Certificated training to become "pest controller" and "pest control operator" are offered, e.g. in Germany and Austria
- Pest controllers are trained in regular intervals
- Educational structures exist additionally, e.g. seminars organised by pest control companies, associations etc.
- UBA-Leaflets and background information with focus on reduction of biocides used on facades
Reducing negative impacts of biocide use on the environment – Towards efficient EU legislation

BEST PRACTICE AND ALTERNATIVE CONTROL MEASURES

Stefanie Wieck
UBA IV 1.2 - Biocides
Outline

1 Problem description

2 Goals

3 Description of measures to be discussed

4 Examples from other laws and provisions

5 Specific Examples:
   The relationship between efficacy and sustainability
   Ulrike Frank, KEMI (SE)

Guideline CEN 404 on good practice in professional application of biocides in civil areas
Maristella Rubbiani, L'Istituto Superiore di Sanità (IT)

6 Discussion
Wrong and/or unnecessary use of biocidal products poses unnecessary risks

- **Wrong use** of biocides leads to unnecessary risks for the environment
  
  **Example rodenticides:**
  - High risks from anticoagulant rodenticides for environment and especially non-target organisms

  Percentage of foxes with anticoagulant residues (liver) in Germany 2012 and 2013 (N=265), yet to be published by JKI and UBA

  - Wrong use poses even higher risks to environment (e.g. open application without bait boxes)
  - During product authorisation development of “Best Practice Codes” for qualified and non-qualified users
Problem description

- **Use below the efficient concentration** would lead to emissions to the environment without having any benefit
- **Lack of knowledge of alternatives or other measures** to minimise biocide uses lead to unnecessary use

→ Structural measures on buildings or machines, organisational measures or the use of biocide-free alternatives would reduce risks from biocidal products due to less use

→ Need to integrate these in the best practice codes

→ No product-centred approach
Problem description

Current situation:

- **Industrial applications:** Best Practice Reference Documents (BREFs) developed under Directive 2010/75/EU on industrial emissions

- **Non-industrial applications:** Large number of existing codes of best practice for several PTs available, but gaps in certain usage areas, not legally binding
Problem description

Best Practice Reference Documents (BREFs) developed under Directive 2010/75/EU on industrial emissions

- To some extent consideration of biocides:
  - Avoid use of halogenated oxidising biocides
  - Selection of biocides which match the requirements of cooling systems with the sensitivity of the aquatic environment
  - ... 30% instead of typical 2-4% to reduce the carryover of dissolved matter. This can help to decrease the consumption of paper chemicals, such as ... machine aids like washing chemicals, slimicides and biocides.

- Sometimes no specific consideration:

→ Biocides and especially alternatives are not specifically addressed in all BREFs.
Goal

Providing tools to users of biocidal products enabling them to target use to essential cases and in cases identified as essential to using biocidal products in a sustainable way.
Description of measures to be discussed

1. Establish conditions enabling users to decide whether pest control is really necessary

2. Establish offers of information enabling users to chose the method with the least risk to human health and the environment if pest control is necessary
   → Develop PT- or use specific **codes of best practice** / Advancement of **BREFs**
     - Considering the necessary conditions (e.g. threshold levels)
     - Using existing (at the moment not legally binding) codes
     - Give incentives to encourage users to apply them
     - Include them into curricula for training and education
     - Promote the establishment of advisory services

3. Development of best practice documents for the different uses of biocidal products and integration of the need to follow these codes in the proper use according to Article 17 of the Regulation 528/2012.
Examples from other laws and provisions

Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides

- **Definition IPM** in Article 3:
  “careful consideration of all available plant protection methods and subsequent integration of appropriate measures that discourage the development of populations of harmful organisms and keep the use of plant protection products and other forms of intervention to levels that are economically and ecologically justified and reduce or minimise risks to human health and the environment.”
Examples from other laws and provisions

Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides

- Article 14: Obligation to take **all necessary measures** to promote low pesticide-input pest management and to ensure that IPM can be implemented.

- Implementation of **crop or sector-specific guidelines** shall be encouraged.

- **General principles** of IPM are defined in Annex III of the Directive.
Examples from other laws and provisions

Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides

General principles of IPM (Annex III):

- Prevention and/or suppression of harmful organisms (e.g. crop rotation, balanced fertilisation, hygiene measures...)

- Monitoring of harmful organisms by adequate methods and tools incl. advisory service

- Use of threshold values for harmful organisms to support decisions whether use of plant protection measures is necessary (taking into account region, specific areas, crops and particular climatic conditions)

- Preference of sustainable biological, physical and other non-chemical methods
Examples from other laws and provisions

Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides

General principles of IPM (Annex III):

- Use of target-specific pesticides with the least side effects
- Keep use of pesticides to necessary levels (e.g. reduced doses, partial applications)
- Application of anti-resistance strategies
- Check of the success of the applied methods
Examples from other laws and provisions


- Article 55: Request of **proper use**

- **Proper use** means:
  - Applications of the principles of good plant protection practice
  - Compliance with the contents of authorisations and specifications on the labelling
  - Compliance with the provisions of Directive 2009/128/EC
  - **Especially compliance with the before mentioned Article 14 and the general principles of IPM**
Examples from other laws and provisions

Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control)

- Best Practice Reference Documents (BREFs) available for several sectors using biocides:
  - Food, Drink and Milk Industries
  - Industrial Cooling Systems
  - Intensive Rearing of Poultry and Pigs
  - Pulp and Paper Industry
  - Slaughterhouses and Animals By-products Industries
  - Tanning of Hides and Skins
  - Textiles Industry
  - Wood and Wood Products Preservation with Chemicals (no information available yet)
Specific examples

The relationship between efficacy and sustainability

Ulrike Frank, KEMI (SE)

Guideline CEN 404 on good practice in professional application of biocides in civil areas

Maristella Rubbiani, L'Istituto Superiore di Sanità (IT)
Discussion

QUESTIONS:

1. Do you agree with the goals?

2. The implementation of which elements of IPM would make sense for the use of biocidal products?

3. For which PTs would the implementation of specific best practices be especially relevant?

4. How can we achieve standardized PT-specific and or use-specific codes of best practices?

   How to give incentives for users to apply them?
   How to make their application obligatory and verifiable?
Do you agree with the goals?

Providing tools to users of biocidal products enabling them to target use to essential cases and in cases identified as essential to using biocidal products in a sustainable way.
The implementation of which elements of IPM would make sense for the use of biocidal products?

General principles of IPM (Annex III):

- Prevention and/or suppression of harmful organisms (e.g. crop rotation, balanced fertilisation, hygiene measures...)
- Monitoring of harmful organisms by adequate methods and tools incl. advisory service
- Use of threshold values for harmful organisms to support decisions whether use of plant protection measures is necessary (taking into account region, specific areas, crops and particular climatic conditions)
- Preference of sustainable biological, physical and other non-chemical methods
- Use of target-specific pesticides with the least side effects
- Keep use of pesticides to necessary levels (e.g. reduced doses, partial applications)
- Application of anti-resistance strategies
- Check of the success of the applied methods
For which PTs would the implementation of specific best practices be especially relevant?

1. Establish conditions enabling users to decide whether pest control is really necessary

2. Establish offers of information enabling users to choose the method with the least risk to human health and the environment if pest control is necessary
   → Develop PT- or use specific codes of best practice / Advancement of BREFs
   - Considering the necessary conditions (e.g. threshold levels)
   - Using existing (at the moment not legally binding) codes
   - Give incentives to encourage users to apply them
   - Include them into curricula for training and education
   - Promote the establishment of advisory services
How can we achieve standardized PT-specific and or use-specific codes of best practices?

- How to give incentives for users to apply them?
- How to make their application obligatory and verifiable?

3. Development of best practice documents for the different uses of biocidal products and integration of the need to follow these codes in the proper use according to Article 17 of the Regulation 528/2012.
Thank you for your attention!

Stefanie Wieck
Stefanie.Wieck@uba.de

http://www.umweltbundesamt.de/en
http://www.biozid.info

And thank you to our contractors: Stefan Gartiser, Michael Burkhardt and Rita Groß!
Efficacy

A Necessary Precondition for Proper Use

Ulrike Frank
Berlin 31. March 2014
What would you say about a product that…

• ...doesn’t hold what it promises
• ...is more expensive than comparative products
• ...presents a possible risk for your health
• ...is hazardous to the environment
What would you say about a product that...

- ...doesn’t hold what it promises
- ...is more expensive than comparative products
- ...presents a possible risk for your health
- ...is hazardous to the environment

Almost any antibacterially treated article on the market fulfills this description !!!
The good news:

Treated articles are regulated for the first time now by the Biocidal Products Regulation (BPR)

- they may only contain approved (=risk-evaluated) active substances

- if they claim to have a biocidal function ("antibacterial"), they have to be labelled
The bad news:

- The efficacy of the treatment doesn’t need to be proven

- Only very few applications (of an active substance in a treated article) undergo a risk assessment, if any

(during active substance evaluation, there is still the principle in place, that only one example product needs to meet the criteria; → principle doesn’t fit for treated articles)
Two types of treated articles

– Treatment is intended to protect the properties of a material, extend durability or protect the function of an article.
  (often silent treatment → no claim)

– Treatment is intended to add new properties or functions to an article not related to its primary use.
  (treatment used as a selling point → claim)
Proper Use?

http://www.bing.com/images/search?q=antibacterial+pen&go=&qs=ds&form=QBIR

ANTIBACTERIAL PEN
You have to use a Pen – So why not an Anti Bacterial Pen? With MRSA, Clostridium Difficile and H1N1 Swine Flu continuing to hit the headlines (there were 6,381 cases of MRSA in the year to April 2007 and 13,666 infections of C Diff in the three months from April to June alone), minimising cross-infection within hospitals and other at risk facilities is a major concern for healthcare professionals. Healthcare workers are being encouraged adhere to infection control practice and procedures and everyone is instructed to wash their hands constantly but the simple Pen has thus far escaped the attention of “infection control” practice but has long been recognized as a serious risk. The Medisafe Antibacterial Pen offers the key benefit of being manufactured from plastic impregnated with an anti-infective additive. This means the pen is still effective even after scratches or long term use. Following tests by an independent Microbiological and Cell
Efficacy testing

Treated plaque

Medium with nutrients

Inoculum

Incubation

Untreated plaque

Medium with nutrients

Inoculum

Incubation

Treated plaque

Untreated plaque
Efficacy testing

Treated plaque

Untreated plaque

Incubation

Treated plaque

Incubation

Untreated plaque
Proper Use?

To avoid unnecessary use:

• Define the claim precisely: "antibacterial" doesn’t say anything

• Important: Test efficacy under normal conditions of use

• Introduce proper requirements for efficacy on active substance evaluation (for imported treated articles this is the only occasion → there is no product authorisation step)
Guidance for Efficacy Testing

• The nordic countries have developed a guidance document on Efficacy Testing of Treated articles
  ➢ Claims must be specific
  ➢ Testing strategies for different types of claims
  ➢ Several tiers necessary to prove complex claims

Efficacy Assessment of Treated Articles — Nordic cooperation
Efficacy Assessment of Treated Articles
A guidance

Peter Askew, IMSL

http://dx.doi.org/10.6002/NA2014-904
NA2014-904
ISSN 1311-6562

The publication can be found at this link:

Normal conditions of use

- These principles can also be applied to normal biocidal products, importantly of Main Group 1 (disinfectants)
Summary

• Sharper requirements for efficacy testing on active substance evaluation

• Description of intended applications and claims as precise as possible

• Testing of claims under normal conditions of use
Guideline CEN 404 on good practice in professional application of biocides in civil areas

Maristella Rubbiani
National Center for Chemicals
Istituto Superiore di sanità
Viale Regina Elena 299
Roma Italy
Why a CEN Standard

Ensure that the Pest Management is observed in order to protecting citizens and the environment in which they live against public health risks.
Why a CEN Standard

- By updating activities to be more efficient, in a safer way, and protecting human and the environment.
- By organizing a certification program.
- By proposing a training program.
- By minimizing the use of biocides when possible without impacting the efficiency of the treatment.
WHAT DOES THE STANDARD COVER?

SCOPE

The standard will specify the requirements and basic competences to reach a professional operation level of the services provided by pest management service companies, to meet the needs of private companies, public authorities and consumers.
CEN actions

- Creation of PC 404.
- Secretary: UNI from Italy.
- Nomination of experts by National Bodies.
- Nomination of Observers.
- Definition of the scope.
- Creation of Workshops.
- Promote the standard.
The different groups work on specific parts of the proposed standard.

Twice a year a plenary session to validate every step.

After 2 years a draft standard is written and proposed to the Project Committee.

After validation the project is submitted to the standardisation bodies of each member state for approval.

After integration of remarks and corrections the standard is validated.
Currently

- The draft standard has been written and proposed to the project Committee.
- The final document has been copied to all national standard institutes for comments.
- A survey has been organized.
- A final (?) meeting has taken place.
- After integration of remarks and corrections the standard will be validated and published in 2014.
This European Standard specifies the requirements and competences to be met by professional providers of pest management services in order to protect public health and the environment.

This Standard applies to those who have the responsibility for delivering pest management services including the assessment, recommendation and subsequent execution of the defined control procedures.

The requirements set out in this Standard are designed to apply to any service provider whose activity falls within this scope as the application of suitable products and methods against pests.
What are the next steps

- To ensure that most professionals follow the standard.
- To meet the requirements of the standard.
- To organize a certification process.
- To inform organizations, customers, stakeholders about the CEN standard.
- To design a protocol.
- To design a certification program.
- Meet the requirements of the standard.
Management improvement

Complying to the Standard:

- Define responsibilities, and necessary competences,
- Organize the communication
- Updating of the information.
- Plan a continuous training program.
- Organize the traceability of all actions.
Thank you for your attention!

And to Mr Bertrand Montmoreau -CEPA-
Reducing negative impacts of biocide use on the environment – Towards efficient EU legislation

REQUIREMENTS FOR SALES

Beatrice Schwarz-Schulz & Stefanie Wieck
UBA IV 1.2 - Biocides
Outline

1 Problem description

2 Goals

3 Description of measures to be discussed

4 Examples from other laws and provisions

5 Specific Example:
Restrictions on sales of biocides in Belgium (Herlinde Vanhoutte, FPS Health, Food chain safety and Environment (BE))

6 Discussion
Problem description

Misuse and unnecessary application of biocidal products lead to unnecessary emissions of biocides into the environment

- **Current situation**: No regulation of sales for biocidal products in Regulation 528/2012 (BPR)

  In Germany: Prohibition of self-service and duties to inform and record sales if substances or mixtures are classified as T, T+, O, F+ or have specific R-sentences (ChemVerbotsV)

- **Unnecessary applications**: Advertisements promote unnecessary and superfluous uses

Only 2 of 24 examples that should be disinfected according to http://www.danklorix.de/tipps_desinfektion.php
Problem description

- **Lack of awareness** of risks and/or lack of knowledge on terms and conditions of use account for misuse or unnecessary application

- **Moment of sale**: important opportunity to raise awareness and communicate risks, alternatives and safe use

- No justification to **miss this opportunity** for biocides while seizing it for plant protection products.

- **Examples for missing instruments for biocides**:

  **Authorisation of rodenticides containing 2nd generation anticoagulants**
  - Authorisation for professional use only due to high risks
  - No possibility to include provisions on sales in the authorisation

  → Non-professional users not allowed to use the products but can still buy them legally
  → High risk of misuses

- **Self-service**
  - Plant protection products in Germany: must not be sold by self-service
  - Biocidal products in Germany: products (e.g. insecticides) based on identical active substances, self-service is allowed.

  → Infringes the basic principle that legal practices should be balanced and appropriate
**Goals**

Minimising misuse and unnecessary applications by accommodating rules for sales to the risks biocidal products pose to human health and the environment.
Description of measures to be discussed

Implementation of requirements for sales of biocides:

a) Prohibition of **self-service and internet-sales** for biocidal products

b) Ensure that biocidal products are only sold **by qualified trained persons**

c) Consideration whether certain biocidal products could be excluded from such an obligation, for instance **low-risk products** according to Annex I of Regulation (EU) No. 528/2012.

d) Obligation of distributors to provide **information to non-professional users** regarding the risks for human health and the environment and regarding preventive or alternative biocide-free measures.

e) Sales of biocidal products solely authorised for professional use **to qualified trained persons only**.

Examination whether there could be restrictions laid down on **advertisement** in order to prevent unnecessary uses.
Examples from other laws and provisions

Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides

- **Requirements for sales**: Article 6 of Directive 2009/128/EC

- Obligation to ensure that distributors have *enough staff holding a certificate* to provide information on the risks and safe use of pesticides to customers

- Only *persons holding a certificate allowed to buy* pesticides authorised for professional use

- Requirements of distributors selling pesticides to non-professional users to *provide general information* regarding risks and usage of pesticides and low-risk alternatives

- Member States may require *pesticide producers* to provide such information
Examples from other laws and provisions I

German Plant Protection Law of 6. February 2012

German plant protection law goes further than the Directive 2009/128/EC and contains provisions on the following topics:

- Plant protection products only authorized for professional use shall only be sold to trained customers with a certificate.

- Plant protection products must not be placed on the market through vending machines or other types of self-service.

- The staff has to inform the customer about the appropriate use of the products in accordance with regulations, especially about prohibitions and limitations.
Examples from other laws and provisions II

German Plant Protection Law of 6. February 2012

German plant protection law goes further than the Directive 2009/128/EC and contains provisions on the following topics:

- In addition to that, while selling products to non-professional users the staff has to provide general information regarding risks for human health and the environment including in particular information on user protection, proper storage, handling and application as well as on safe disposal and information on low-risk alternatives.

- If a distributor violates legal provisions repeatedly, the sale of plant protection products by this distributor shall wholly or partly be prohibited for up to five years.
Specific example

Restrictions on sales of biocides in Belgium

Herlinde Vanhoutte, FPS Health, Food chain safety and Environment (BE)
Discussion

QUESTIONS:

1. Do you agree with the goals?

2. For which PTs do you think should respective measures be elaborated?

3. Do you see further problems with the sales process that are not solved under the authorisation procedure?

4. Do you know of national measures to solve the problems?
Do you agree with the goals?

Minimizing misuse and unnecessary applications by accommodating rules for sales to the risks biocidal products pose to human health and the environment.
2. Description of measures to be discussed

For which PTs do you think should respective measures be elaborated?

Implementation of requirements for sales of biocides:

a) Prohibition of **self-service and internet-sales** for biocidal products

b) Ensure that biocidal products are only sold **by qualified trained persons**

c) Consideration whether certain biocidal products could be excluded from such an obligation, for instance **low-risk products** according to Annex I of Regulation (EU) No. 528/2012.
2. Description of measures to be discussed

For which PTs do you think should respective measures be elaborated?

Implementation of requirements for sales of biocides:

d) Obligation of distributors to provide information to non-professional users regarding the risks for human health and the environment and regarding preventive or alternative biocide-free measures.

e) Sales of biocidal products solely authorised for professional use to qualified trained persons only.

Examination whether there could be restrictions laid down on advertisement in order to prevent unnecessary uses.
**Discussion**

**QUESTIONS:**

3. Do you see further problems with the sales process that are not solved under the authorisation procedure?

4. Do you know of national measures to solve the problems?
Thank you for your attention!

Dr. Beatrice Schwarz-Schulz
Beatrice.Schwarz-Schulz@uba.de
Stefanie Wieck
Stefanie.Wieck@uba.de

http://www.umweltbundesamt.de/en
http://www.biozid.info
Workshop “Reducing the negative environmental impacts of biocide use - Towards efficient EU legislation”

Marketing requirements

Herlinde Vanhoutte
Head of Service Biocides
CA Belgium
Context
Existing Belgian legislation
Future Belgian legislation
Context

• Policy goal: to reduce the risk of biocide use to a socially acceptable level

• In order to define “sustainable use”, a differentiated approach towards public and professional use is often made.
  • Decision that some biocidal products should be excluded from public use. No public use for biocidal products complying with:
    • Criteria of Art. 19,4 of the BPR
    • Annex VI, 63 wearing of Personal Protective Equipment.
  • Up to now, no definition of professional or public use has been given.
• 21% of the biocidal products are not allowed for public use according to the BPR criteria
• whereas 63 to 70% are destined for professional use.
Belgian approach

Context

- Disadvantages of the former “Class A” system
- Upcoming European legislation
- Limited resources
- Differentiated or “scattered” objectives
- Measuring impact
Belgian approach

Former system

• No public use -> class A
• Sellers have to be registered
• Users have to be registered, except for certain professions
• Sellers and users have to be trained
• Separate storage

Disadvantages

• Class A itself includes a variety of products
• No sales monitoring
• Difficult to enforce
• Regular training, very theoretical
• Not always necessary
Selling and using biocidal products

Current proposal: products that are not aimed to public use fall within the scope of the closed circuit.

Features of the closed circuit:

- Authorisation certificate stating:
  - the conditions of the registration system
  - additional conditions (storage, transport, wearing of PPE,...).

- Online registration system
  - Registers sellers and users
  - Registers sales, purchases and use (every 3 months)

- Training conditions / proof of knowledge
  - Enforced by Ministerial Decree
  - Specific to each product, product type or use
Selling and using biocidal products

- Registered seller
  - Is registered
  - Registers the products he sells
  - Registers the conditions mentioned on the authorisation certificate
  - Is only allowed to sell his products to registered users or registered sellers
  - Always mentions the conditions of use when selling a product
  - Registers all sales every 3 months.

- Training conditions:
  - Either enforced by Royal Decree
  - Or, if not, the seller provides for appropriate training himself.
Selling and using biocidal products

Users obligations under the new system

• User of professional biocidal products
  • Is registered
  • Registers the products he purchases
  • Is only allowed to purchase products from registered sellers
  • Registers every purchase and use every 3 months.
  • Pledges himself to follow the product’s conditions for use mentioned to him.

• Training conditions:
  • Either enforced by Royal Decree
  • Or, if not, the user provides for appropriate training himself.
Selling and using biocidal products

- Transition from the old system to the new system
  - Set-up of the online registration system (deadline June 2015)
  - Adaptation of the authorisation certificates
- Draft Ministerial Decree on the online registration system
- Draft Royal Decree on training / proofs of knowledge
Thank you for your attention.

Info.biocides@environment.belgium.be
Regulation of equipment for the application of biocidal products

Stefan Gartiser
Hydrotox GmbH, Freiburg
1. Problem description
2. Goals
3. Description of measure
4. Examples from other laws and provisions
5. Specific examples
6. Discussion
Inappropriate or badly maintained equipment for biocides may cause undesired losses or overuses leading to unnecessarily high exposure.

**Directive 2009/127/EC on machinery for pesticide application**

- Amendment to the Machinery Directive 2006/42/EC
- The design, construction and maintenance of machinery for pesticide application play a significant role in reducing the adverse effects of pesticides on human health and the environment (recital 2).
- Application equipment for biocidal products not covered so far
- Extension to biocides to be examined by 31. December 2012 (has been postponed due to other priorities).
Problem description

Current situation for biocides

● Several ISO or CEN standards existing.
● Some national evaluation/inspection schemes established (e.g. for RKI list on disinfection machines, TRGS on pest control).

But

● No general inspection requirements for biocides equipment.
● Systematic evaluation of application equipment is missing.
● Some machines (e.g. wood impregnation) covered by Machinery Directive 2006/42/EC (MD).
● So far the MD only considers environmental issues for the plant protection products machinery (MD Annex I).
Problem description

Wood preservatives

**Industrial use**

- Vacuum pressure impregnation of wood preservatives may reduce leaching during the use phase
- Directive 97/23/EC concerning pressure equipment regards the safety and protection of health of persons, domestic animals or property, but not the environment.
- EN 13445 part 1-7 on unfired pressure vessels
- CE conformity assessment required.

**In-situ application**

- In situ spraying is not promoted for non-professional user, but the spray application equipment is promoted for such uses.
Problem description

Large scale application of insecticides

Currently two applications:

- Mosquito control
- Control of oak procession moths
Goals

Ensure that equipment being placed on the market is up to the state of the technology as far as requirements of risk reduction are concerned.

Making sure that the condition of equipment already in use is such that adverse impacts on human health and the environment are minimized.
Description of measures

1. Amendment of Directive 2006/42/EC to include machinery and equipment for the application of biocidal products.
2. Provisions for the inspection of machinery and equipment for the application of biocidal products already in use.
   • Defined intervals for inspections,
   • Defined design requirements to ensure a high level of protection for human health and the environment (annex II),
   • Regular calibrations and technical checks by professional users in accordance with appropriate training,
   • Certificate to allow the verification of inspections,
   • Member States to establish national registers for machinery and equipment with favoured properties.
Health and safety and environmental requirements relating to the inspection of pesticide application equipment

The pesticide application equipment must

• function reliably and be used properly for its intended purpose,
• Be filled and emptied safely, easily and completely and prevent leakage of pesticides,
• permit easy and thorough cleaning,
• ensure safe operations,
• be controlled and capable of being immediately stopped by operator.
Examples from other laws and provisions

1. Directive 2009/127/EC amending the Machinery Directive with regard to machinery for pesticide application
   • Only covers equipment for plant production products so far,
   • Exemption of certain handheld equipment or equipment with a very low scale of use.

   • Article 8 defines rules for the inspection of equipment,
   • Requirements specified in Annex II,
   • Professional users shall conduct regular calibrations and checks.

3. International standards
   • Numerous national and international standards existing,
   • Systematic evaluation and identification of gaps is missing.
Questions

1. Do you agree with the goals?

2. For which PTs do you think should respective measures be elaborated?

3. Do you see further problems with the equipment for the application that are not solved under the authorisation procedure?

4. Do you know of national measures to solve the problems?
“Reducing negative impacts of biocide use on the environment – Towards efficient EU legislation“

Workshop
31st March – 1st April 2014
Berlin

Testing of Plant Protection Equipment in Germany

Dipl.-Ing. Dirk Rautmann
Provisions for the placing on the market of new plant protection equipment

Voluntary tests at BBA (now JKI) at least since 1950

Test conducted on test benches and in practise

BBA approval and test report

List of approved sprayers (Pflanzenschutzmittelverzeichnis Teil VI)
Provisions for the placing on the market of new plant protection equipment

1988 – 2012

- Mandatory test of all sprayers as defined in the plant protection act (1986)
- Listing of all successfully tested sprayers in the plant protection equipment list
Provisions for the placing on the market of new plant protection equipment

1988 – 2012

• Manufacturers may apply for additional voluntary tests

  ✓ ENTAM-test (physical test at one of the test stations in ENTAM)

  ✓ JKI-approval (physical test at JKI and practical test on a farm)

  ✓ Drift reduction (important to reduce buffer zones prescribed by pesticide labels)
Provisions for the placing on the market of new plant protection equipment

Since 2012

• Production of sprayers has to follow machinery guideline 2009/127/EC

  ✓ EN 16119: Agricultural and forestry machinery – Environmental requirements for sprayers

• Manufacturer has to provide declaration of conformity and CE-sticker
Provisions for the placing on the market of new plant protection equipment

Since 2012

• Manufacturers may apply for additional voluntary tests at JKI

  ✓ Document check

  ✓ ENTAM-test (physical test at one of the test stations within ENTAM)

  ✓ JKI-approval (physical test at JKI and practical test on a farm)

  ✓ Drift reduction (important to reduce buffer zones prescribed by pesticide labels)
Provisions for the placing on the market of new plant protection equipment
Provisions for the placing on the market of new plant protection equipment

EN and ISO standards

<table>
<thead>
<tr>
<th>General</th>
<th>Safety / Environment</th>
<th>Nozzles / Filters</th>
<th>Distribution / Drift</th>
<th>Boom / Blower</th>
<th>Tank</th>
<th>Portable equipment</th>
<th>Granules applicator</th>
</tr>
</thead>
</table>

ISO 4288 ISO 5681 ISO 10627-1/-2 ISO 13441-1/-2 ISO 22368-1/-2/-3 ISO 14710 ISO 19732
Provisions for sprayers in use

- Compulsory test of each sprayer in use every three years (until 2013 every two years)
- Farmer has to have his sprayer tested by an authorised workshop
- Workshop has to compile a test report
- Workshop affixes a sticker on the sprayer stating the year of the next test
Provisions for sprayers in use

Sprayer test in an approved workshop
Application techniques for biocides
Application techniques for biocides

Helicopter spraying forest
Application techniques for biocides

Unmanned aerial vehicle spraying an isolated tree
Thank you for your attention
Reducing negative impacts of biocide use on the environment – Towards efficient EU legislation

Reduction of Biocides Use in Sensitive Areas

Michael Burkhardt

HSR University of Applied Sciences Rapperswil, Institute of Environmental and Process Engineering (UMTEC), 8640 Rapperswil, Switzerland

Berlin, 1st April 2014
Outline

- Problem description
- Goals
- Description of measure
- Examples from other laws and provisions
- Specific example: Authorisation and restrictions of AF products in Finland (Pasanen Jaana)
- Discussion
Problem Description

- **Sensitive areas exists across Europe**: catchments of drinking water wells, Natura 2000, playgrounds, schoolyards, lakes, etc.
- **Exposure by certain ways of applications and substances**
Sensitive areas need to be protected by direct or indirect impact of biocides

- Certain biocidal products are used directly in or may release to the natural environment
  - Insecticides (PT 18) for large-scale control for the large-scale control of mosquitoes or oak procession moth
  - Disinfections for fish farms (PT 2) or cooling water treatment (PT 11) enter water conservation areas directly
  - Antifouling agents (PT21) applied by private users release to water protection sites especially in marinas

- Provisions, prohibitions or restrictions at EU-level are in place to prevent PPPs causing negative impact on water bodies, but similar rules of sustainable use for biocides are lacking
Goals

- Reduction of emission of biocides to soil and water bodies in general (source control)
- Technology based, e.g. alternative products, applications
- Limitations of use for sensitive and public areas
- Minimizing emissions, e.g. to public parks, water reservoirs, playgrounds

![Graph of sampling dates and concentration levels for Diuron, Isoproturon, Carbendazim, and Terbutryn in Leimbach and Kraichbach.](image)
Prohibition and Restriction of biocides near water bodies, protected areas and public sites (defined by directives of water, wild birds, etc.)

- **Prevention required** using biocide-free alternatives or low-risk biocidal products mandatory
- **Prohibition** of applications or products with a high risk of losses or toxic profile (ban of products)
- **Application technique** most efficient (state-of-the-art) are mandatory to prevent negative impact to aquatic environment (ban of certain application techniques)
- **Impact assessment** weighing costs and benefits for human health and environment of the application of biocidal products in protected areas
- **Environmental monitoring** specifically designed for sensitive areas
Examples from other Laws and Provisions


- **Prohibition or restriction in high risk areas** of environmental and human exposure, e.g. conservation areas, public places or parks, school grounds and children playgrounds
- **Buffer and safeguard zones** to avoid pollution of surface water and groundwater
- **Promotion of alternative**, e.g. low risk pesticides, biological control measures and efficient application techniques
National regulations for antifouling products

- Lake Constance ("Richtlinie für die Reinhaltung des Bodensees"): It is recommended not to use antifoulings containing biocides (Germany, Austria, Switzerland)
- Lakes Wakenitz and Ratzeburg: According to regulations boats with toxic effects on aquatic life are not allowed
- Regulation of the Ruhrverband for several water reservoirs: Antifouling paints are not allowed containing hazardous substances
Swiss regulation for handling wood preservatives and treated wood

- It is prohibited to treat wood stored in water protection areas
- Construction measures are required to avoid runoff and leaching of biocides in groundwater protection areas and near surface waters
- It is prohibited to empty wood preservatives into surface waters or on soils
- At sites with bats only wood preservatives containing boric salts and pyrethroids are allowed and nesting sites are restricted by treatment.
Evaluation of Measures in Sensitive Areas

Result of questionnaire: Producers do not support prohibitions and restrictions for PT 7 / 10 (but by regulators, associations, NGOs)

- Establishment of protection and buffers stripes to water bodies in which use must be subject to approval - high/medium efficiency only 26%
- Prohibition of the application in sensitive areas (close to surface water, drinking water protection areas, etc.) - high/medium efficiency 34% (figure below)
Acknowledgment

Partner
- Hydrotox GmbH, Freiburg i/Br.
  - Stefan Gartiser, etc.
- Öko-Institut, Freiburg i/Br.
  - Rita Gross

Funding (FKZ 3711 63 410)
- German Federal Environment Agency (UBA)
  - Stefanie Wieck, Silke Müller-Knoche, Ingrid Nöh etc.
Thank you for your attention!

Contact: michael.burkhardt@hsr.ch
Authorisation and restrictions of AF products in Finland
Contents:
• AF authorisation in Finland
• Current and future work with AF-products
• Future challenges

Photo: Pasanen

Workshop “Reducing negative impacts of biocide use on the environment – Towards efficient EU legislation” Berlin, 31.3.–1.4. 2014
Approval procedure for antifouling products for boats, ships and fish farming since 2001

- 50 applications/notifications received
- Half of the products and certain active substances withdrawn from the market 2002-2003
- Marine risk assessment with service life loads carried out
- AF products arranged in frames and divided in use class:
  - products for amateur and professional use
  - products for professional use only
  - products for fish farming

AF products caused unacceptable risk to water and sediment organisms in marina (copper and zinc (from zinc oxide) risk to sediment)
Active substances and sales in Finland

- Annual sales information kg active substances
  - copper(I)oxide
  - copper pyrithione
  - copper thiocyanate
  - dichlofluanid
  - DCOIT
  - zinc pyrithione
  - zineb

- Current list of AF products approved in Finland here:
  
  [http://www.tukes.fi/Tiedostot/Kemikaalituotteet/biosidit/Luettelot/AF_luettelo_281013.pdf](http://www.tukes.fi/Tiedostot/Kemikaalituotteet/biosidit/Luettelot/AF_luettelo_281013.pdf)
Restrictions and risk mitigation methods for AF

- Threshold leaching value for copper 15 µg/cm²/day (=14 days average value at any time during service life) for pleasure craft
- Products with higher copper leaching banned from pleasure craft use
- Some products withdrawn from the market or composition changed
- Ban on antifouling products in freshwater
- Package size of professional products > 20 litres
- Ban on spraying of amateur use products
- Instructions for waste management
- Products containing high amount of ZnO as the only active substance withdrawn from the market (”Alternative AF-products”)
Market surveillance and distribution of information

• Market surveillance carried out 2002 and 2008
  • Illegal products, packaging and labelling of products on the market
  • Retail shops, stores of importers and manufactures
  Inland Finland: only few AF products on the market

• Distribution of information
  • TUKES Web pages
  • Biosinfo@tukes.fi
  • Boating magazines
  • Boating Exhibitions
Current and future work with AF-products

• Renewal of national AF products authorisation
• Updating Finnish scenarios and risk assessment of maintenance and repair phase
  Cumulative environmental risk assessment
• Market surveillance of Chemicals unit established in TUKES 2013
  • Guidance for webmarket established
  • Annual Market surveillance programs
• BONUS: CHANGE (Changing antifouling practices for leisure boat in the Baltic); TUKES in the Advisory board of the Project
Challenges in the future

- Risk assessment in marinas – unacceptable risk from copper (and zinc) in sediment
- Risk assessment alone - not sufficient tool!
  - Risk management and policy guidance needed
- Marinas are sensitive areas
  Protection goal is high
- Promotion of alternatives for AF products
- Internet marketing surveillance
Thank you!
Discussion

Questions

1. Do you agree with the goals?
2. For which PTs do you think should respective measures be elaborated?
3. Do you see further problems with specific areas that are not solved under the authorisation procedure?
4. Do you know of national measures to solve the problems?
1. Do you agree with the goals?

- Reduction of emission of biocides to soil and water bodies in general (source control)
  - Technology based, e.g. alternative products, applications
- Limitations of use for sensitive and public areas
  - Minimizing emissions, e.g. to public parks, water reservoirs, playgrounds)
2. For which PTs do you think should respective measures be elaborated? (examples are given by PT 2, 8, 14, 18, 21)

- **Prevention required** using biocide-free alternatives or low-risk biocidal products mandatory
- **Prohibition** of applications or products with a high risk of losses or toxic profile (ban of products)
- **Application technique** most efficient (state-of-the-art) are mandatory to prevent negative impact to aquatic environment (ban of certain application techniques)
- **Impact assessment** weighing costs and benefits for human health and environment of the application of biocidal products in protected areas
- **Environmental monitoring** specifically designed for sensitive areas
3. Do you see further problems with specific areas that are not solved under the authorisation procedure?

- Certain biocidal products are used directly in or may release to the natural environment
  - Insecticides (PT 18) for large-scale control for the large-scale control of mosquitoes or oak procession moth
  - Disinfections for fish farms (PT 2) or cooling water treatment (PT 11) enter water conservation areas directly
  - Antifouling agents (PT21) applied by private users release to water protection sites especially in marinas

4. Do you know of national measures to solve the problems?  
(Similar to authorisation and restrictions of AF products in Finland)
Reducing negative impacts of biocide use on the environment – Towards efficient EU legislation

Summary and conclusions

Petra Greiner
UBA IV 1 - International Aspects, Pesticides

Ingrid Nöh
UBA IV 1.2 – Biocides

Stefanie Wieck
UBA IV 1.2 - Biocides
Summary of the introductory presentations

- For environmental issues there is a need to provide at least further guidance on a sustainable use of biocides.
  - The effect and risk of certain biocides is comparable to plant protection products (PPP).
  - The EU Commission already came to this conclusion in the Directive 2009/128/EC.

- The “How” is the question (e.g. which guidance documents or other measures are specifically needed)!
Summary of the introductory presentations

- In contrast to PPP, which show a seasonal occurrence, biocides can be found continuously in the aquatic environment the whole year.

- For example DEET was found in 87% of the samples (presentation of Alfredo Alder).

- In 1/3 of survey locations of raw water for drinking water supply: plant protection products/biocides or metabolites were found (presentation of Frank Sacher and Claudia Castell-Exner).
Overall conclusions

- The environmental impact of certain biocides may have been underestimated.

- Biocides are not always used sustainable at the moment.

- Almost all participants agreed: Guidance for a sustainable use would have to be specific for PTs or specific uses.

- There is an important need of environmental monitoring and cross-linking with product authorisation (concept of monitoring system for the EU).

- Need for more data/an overview on uses/sales → COM is asked to check the possibility to include biocides in the statistics regulation (or implementation of statistics in R4BP? )
Conclusions - Further training and education

- General agreement on the need of proper trainings and education programs for professional users, but general awareness raising also for professional users necessary.

- Only for certain PTs (e.g. PT 14) or uses necessary/appropriate.

- No agreement whether it should be mandatory or not. Mandatory would lead to legal security of users but voluntary agreements might be enough?

- For apprenticeship: No further training measures but integration of sustainable use of biocides in curricula.
Conclusions - Best practice and alternative control measures

- General agreement that best practices are important and needed, both general and PT specific best practice (e.g. rodenticides).

- No agreement on whether they should be mandatory. Legally binding specific best practice could be defined in conditions of use during product authorisation.

- Need for independent advisory services for the users.

- Threshold values for pest triggering the use of biocidal products are relevant but not always applicable (e.g. preventive wood preservation).
Conclusions - Best practice and alternative control measures

- Efficacy is an important property to consider, also for treated articles (Nordic countries (SE) develop Guidance for efficacy testing of treated articles).

- Efficacy testing during active substance evaluation should be revised/improved/achieve a higher status and should represent realistic scenarios (duration of efficacy).

- Need to regulate unnecessary uses – unclear how this could be done.

- COM is asked to check whether it is possible to include risk/benefit-analysis in product authorisation to achieve the minimum use necessary.
Conclusions - Requirements for sales

- Can be regulated nationally, if public use is prohibited.

- Registration of biocides sellers, users and sales for those products not allowed for public use as in Belgium.

- Registration of sales seems to be a tool to get an overview on frequency of use and amounts.

- Prohibition of self-service important for some PT (e.g. PT 14, 18, similar PTs to PPPs?).
Conclusions - Requirements for sales

- Possible sales restrictions for biocidal products containing substances with problematic properties (e.g. substances under discussion as candidates for substitution).

- For a harmonised implementation an official definition of “professional users” is needed.

- Need for rules/regulation of internet trading.
Conclusions - Equipment for the application of biocides

- Partially agreement with the goal, but need to specify the applications for which it is needed:
  - Some consider this not far enough.
  - Some see need to get first an overview of the used machinery before deciding.

- Missing data on machinery might lead to denial of product authorisation (because of worst case estimations).

- Possibility of definition of specified conditions/suitability on machinery for their intended application within product authorisation, but possibility to ask for data unclear.

- There is a link to good practice/training (safe handling, filling, cleaning of the equipment)
Conclusions - Equipment for the application of biocides

- Regulation of equipment might make sense for the uses similar to use of PPP.

- Need to get an overview over all other machinery.

- Provisions might not be feasible for industrial applications.

- Use of existing guidelines and cooperation (Food and Safety authorities in BE in PT4, CE-system on medicinal devices in PT 2 in Germany).
Conclusions - Equipment for the application of biocides

- COM is asked to check the possibility to elaborate the report on the inclusion of biocides in Machinery Directive (as requested in recital 3 of Directive 2009/127/EC amending Directive 2006/42/EC with regard to machinery for pesticide application).

Way forward:

1. Systematic overview over used machinery and equipment in use.

2. Identification of application methods that would be relevant to consider (e.g. spraying is worst case).
Conclusions - Reduction of biocides use in sensitive areas

- General agreement that sensitive areas should be protected, but the question left open, how.

- Possibility to restrict such uses within product authorisation (maybe extra authorisation) or need of Directive on sustainable use? BUT: Treated articles for example cannot be considered during product authorisation.

- Need to distinguish between public areas and nature and water protection sites:
  - Public areas: Enforcement of correct use (duty of control of certain pests).
  - Protection sites: Minimisation/restriction of use.
Conclusions - Reduction of biocides use in sensitive areas

- Possible measures for minimisation: Freshwater in Finland: prohibition of antifouling agents.

- Alternatives and/or preventive measures need to be considered (best practice).

- Enforcement is fundamental.
Thank you for your attention!

Ingrid Nöh
Ingrid.Noeh@uba.de

Petra Greiner
Petra.Greiner@uba.de

http://www.umweltbundesamt.de/en
http://www.biozid.info